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FINAL BASEWIDE GROUNDWATER SAMPLING AND ANALYSIS QUARTERLY MONITORING REPORT JULY 2000 NAS FORT WORTH TX
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# FINAL
# BASEWIDE GROUNDWATER SAMPLING AND ANALYSIS PROGRAM
# JULY 2000 QUARTERLY REPORT
# NAS FORT WORTH JRB, TEXAS

Prepared for
U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas

Contract Number F41624-95-D-8005-0033

March 2001

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Mr. Don Ficklen
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3207 North Road
Brooks AFB, Texas 78235-5363

**Re: Final Basewide Groundwater Sampling and Analysis Program**
**July 2000 Quarterly Report**
**NAS Fort Worth JRB, Texas**
**F41624-95-D-8005-0033**

Dear Mr. Ficklen:

HydroGeoLogic, Inc. is pleased to submit the Final version of the Basewide Groundwater Sampling and Analysis Program Quarterly Monitoring Report for the July 2000 sampling event at NAS Fort Worth JRB, Texas. This report presents a description and results of all monitoring activities conducted during the July 2000 groundwater sampling event and planned changes to the sampling scheme for the October 2000 sampling event. Per our discussion on 15 March, 2001, HydroGeoLogic is not providing copies of the Final July 2000 Report for submission to the regulatory community. Instead, copies of the Final Annual Report for the 2000 Groundwater Sampling and Analysis Program will be provided for submission to the regulatory community. The Final Annual Report is scheduled for submission on March 19, 2001.

Please call me at (512) 336-1170 should you have any questions or comments concerning this document.

Sincerely,

Todd C. Harrah
Project Manager

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# FINAL
# BASEWIDE GROUNDWATER SAMPLING AND ANALYSIS PROGRAM JULY 2000 QUARTERLY REPORT NAS FORT WORTH JRB, TEXAS

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March 2001

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13 ABSTRACT (Maximum 200 words)

This document presents the Final Basewide Groundwater Sampling and Analysis Program Quarterly Monitoring Report for July 2000, conducted at Naval Air Station Fort Worth JRB (NAS Fort Worth JRB) Carswell Field, Texas.

The objectives of the basewide quarterly monitoring program are to 1) identify potential impacts to off-site receptors through perimeter monitoring, 2) delineate the contaminant source and the dissolved and non-aqueous phase plumes, and 3) collect data to demonstrate whether natural attenuation of trichloroethene (TCE) is occurring. This report summarizes the results of field screening and analytical results of samples collected during the July 2000 quarterly event and provides recommendations for adjustments to the basewide groundwater monitoring program

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# PREFACE

This Groundwater Sampling and Analysis Program July 2000 Quarterly Groundwater Monitoring Report was prepared for the Air Force Center for Environmental Excellence (AFCEE) to describe the basewide quarterly groundwater monitoring event conducted at Naval Air Station Fort Worth Joint Reserve Base (NAS Fort Worth JRB), Texas during July 2000. The work has been conducted under Contract Number F41624-95-D-8005, Delivery Order 0033, issued to HydroGeoLogic, Inc. (HydroGeoLogic). The AFCEE Contracting Officer's Representative is Mr. Don Ficklen. HydroGeoLogic's Project Manager is Mr. Todd Harrah.

Activities described by the July Quarterly Groundwater Monitoring Report were performed in accordance with HydroGeoLogic's Final 2000 Basewide Groundwater Sampling and Analysis Plan (GSAP) (HydroGeoLogic, 2000a), the Final Basewide Quality Assurance Project Plan (QAPP) (HydroGeoLogic, 2000b), and AFCEE-approved modifications.

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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AFB | Air Force Base |
| AFCEE | Air Force Center for Environmental Excellence |
| AFP 4 | Air Force Plant No. 4 |
| AOC | Area of Concern |
| ASTM | American Society for Testing and Materials |
| BRAC | Base Realignment and Closure |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| *cis*-1,2-DCE | *cis*-1,2-dichloroethene |
| cm/s | centimeters per second |
| COC | chain of custody |
| DO | dissolved oxygen |
| DQE | data quality evaluation |
| EC | electrical conductance |
| EDD | electronic data deliverable |
| Eh | oxidation-reduction potential |
| EPA | U.S. Environmental Protection Agency |
| ERA | Environmental Restoration Account |
| ERPIMS | Environmental Resources Program Information Management System |
| ESE | Environmental Science and Engineering, Inc. |
| F | data qualifier indicating analyte was detected at a concentration less than PQL but greater than MDL. Value may not be accurate or precise (estimated) |
| °F | degrees Fahrenheit |
| ft | feet |
| ft/d | feet per day |
| gpd/ft | gallons per day per foot |
| gpd/ft$^2$ | gallons per day per square foot |
| GSAP | Groundwater Sampling and Analysis Plan |
| HydroGeoLogic | HydroGeoLogic, Inc. |
| IDW | investigative-derived waste |
| IRP | Installation Restoration Program |
| Jacobs | Jacobs Engineering |
| LCS | laboratory control sample |

## LIST OF ACRONYMS AND ABBREVIATIONS (continued)

| | |
|---|---|
| LNAPL | light non-aqueous phase liquid |
| µg/L | micrograms per liter |
| MDL | method detection limit |
| MOU | Memorandum of Understanding |
| MQL | method quantitation limit |
| MSC | medium specific concentration |
| msl | mean sea level |
| MS/MSD | matrix spike/matrix spike duplicate |
| MTBE | methyl-*tert*-butyl ether |
| mya | million years ago |
| NAS Fort Worth JRB | Naval Air Station Fort Worth Joint Reserve Base |
| NFA | no further action |
| NGVD | National Geodetic Vertical Datum |
| NPL | National Priorities List |
| OPR | office of primary responsibility |
| Parsons | Parsons Engineering Science, Inc. |
| PCB | polychlorinated biphenyl |
| PCE | tetrachloroethene |
| PE | performance evaluation |
| PID | photoionization detector |
| POL | petroleum, oil, and lubricant |
| PQL | practical quantitation limit |
| QAPP | Quality Assurance Project Plan |
| QA/QC | quality assurance/quality control |
| %R | percent recovery |
| Radian | Radian Corporation |
| RCRA | Resource Conservation and Recovery Act |
| RFA | RCRA Facility Assessment |
| RFI | RCRA Facility Investigation |
| RRS | Risk Reduction Standard |
| SWMU | solid waste management unit |
| TAC | Texas Administrative Code |
| TCE | trichloroethene |
| TNRCC | Texas Natural Resource Conservation Commission |
| *trans*-1,2-DCE | *trans*-1,2-dichloroethene |

## LIST OF ACRONYMS AND ABBREVIATIONS (continued)

| | |
|---|---|
| TWC | Texas Water Commission |
| U | data qualifier indicating analyte was analyzed for but not detected and the associated numerical value is at or below the MDL |
| UJ | data qualifier indicating analyte was analyzed for but not detected and the associated numerical value is an MDL; which is estimated due to deficiencies in the QC criteria |
| USGS | U.S. Geological Survey |
| UTL | upper tolerance limit |
| VOC | volatile organic compound |
| WAA | waste accumulation area |

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# TAB

Section 1.0

# FINAL
# BASEWIDE GROUNDWATER SAMPLING AND ANALYSIS PROGRAM JULY 2000 QUARTERLY REPORT NAS FORT WORTH JRB, TEXAS

## 1.0 INTRODUCTION

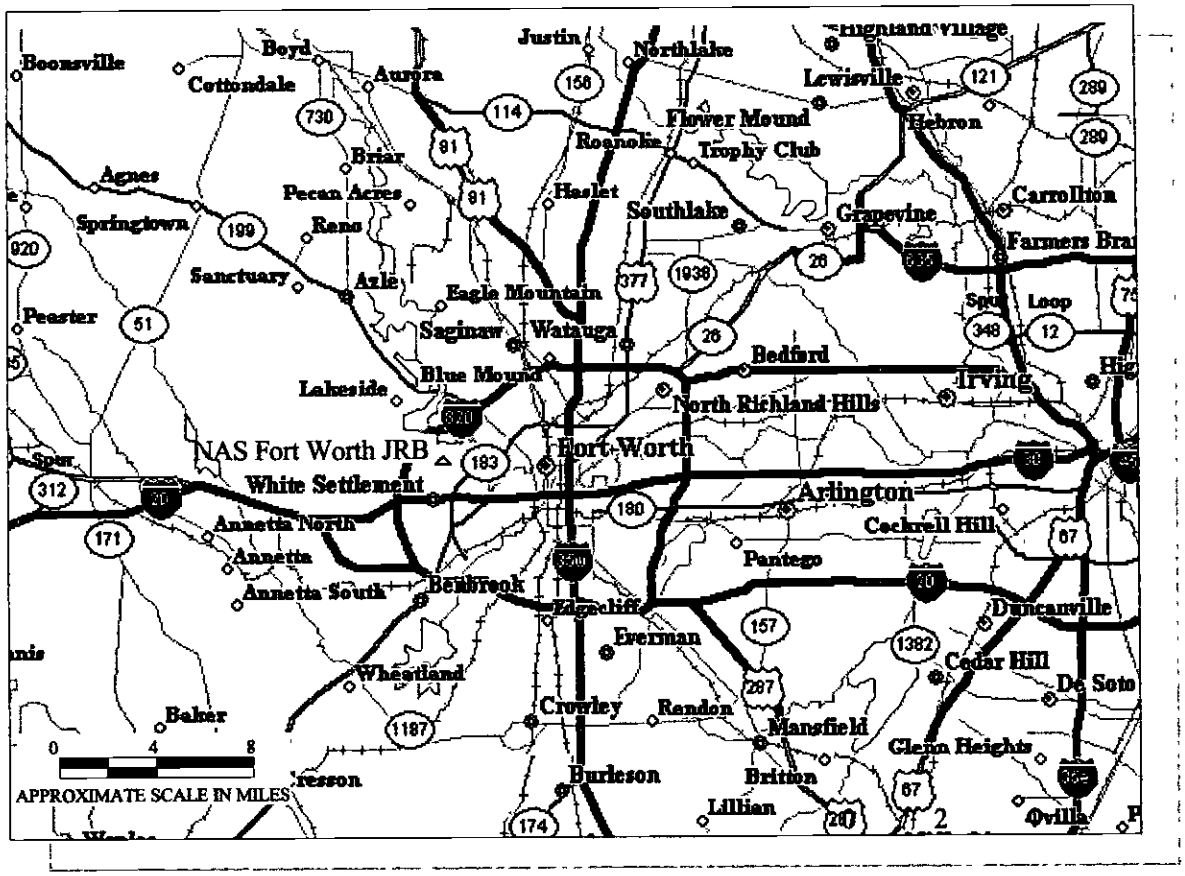
Groundwater monitoring at Naval Air Station Fort Worth Joint Reserve Base, Texas (NAS Fort Worth JRB) (Figure 1.1), has been performed to provide a basis for development and implementation of remedial actions under the Air Force Installation Restoration Program (IRP). This report summarizes the second of three scheduled quarterly sampling events for 2000, performed in July 2000, in accordance with the Final 2000 Basewide Groundwater Sampling and Analysis Plan (GSAP) (HydroGeoLogic, Inc. [HydroGeoLogic], 2000a) and the Final 2000 Basewide Quality Assurance Project Plan (QAPP) (HydroGeoLogic, 2000b). Sampling was not conducted in January 2000 due to delays in contracting. Quarterly groundwater sampling events are conducted to monitor the presence and extent of groundwater contamination and potential surface water contamination at NAS Fort Worth JRB.

### 1.1 MONITORING OBJECTIVES

A basewide groundwater sampling and analysis program was initiated for NAS Fort Worth JRB in April 1995 to address groundwater contamination associated with various Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) identified on the base. Eighteen rounds of quarterly sampling have been implemented to date: April 1995, July 1995, October 1995, January 1996, January 1997, April 1997, July 1997, October 1997, January 1998, April 1998, July 1998, October 1998, January 1999, April 1999, July 1999, October 1999, April 2000, and July 2000. The monitoring objectives for the 2000 program were established to ensure that adequate data are collected for the evaluation of the critical exposure pathways involving groundwater. The objectives also address the monitoring requirements for units which have proposed closure plans, approved remedial plans, or approved closure plans.

The 2000 GSAP monitoring objectives, listed below, were based on the findings of previous investigations, and a current understanding of the remediation/assessment plans anticipated in the coming year. These objectives may require modification to accommodate new data resulting from ongoing and future investigations/remedial actions at NAS Fort Worth JRB. If necessary, the GSAP will be amended to reflect modifications to these objectives.

- Critical Groundwater Exposure Pathways Evaluation - collect data to investigate: (1) potential exposure to groundwater sources used for drinking water; and (2) on-site and off-site exposure to surface water bodies;



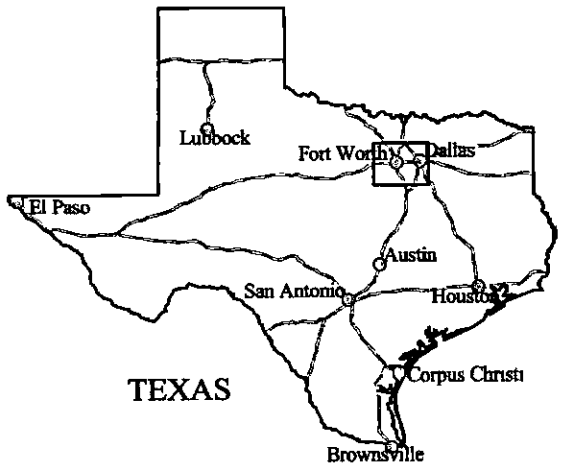




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**Figure 1.1**

**Site Location Map**
**NAS Fort Worth JRB, Texas**

- Additional Source and Plume Delineation - define horizontal or vertical migration of contamination associated with miscellaneous hot spots and potential source areas where data are not currently available; and

- Natural Attenuation Monitoring - collect data to determine the extent that natural attenuation of trichloroethene (TCE) is occurring.

## 1.2 GSAP APPROACH

This GSAP has been developed to provide a framework to achieve the objectives described above and describes, in detail, the approach for the current program. This document includes the approach to the following components:

- Collection of water level measurements
- Removal of light non-aqueous phase liquids (LNAPL), if necessary
- Collection and analysis of groundwater quality samples
- Methods for water quality analyses
- Monitoring well inspection and maintenance
- Procedures for management and transfer of data

This framework includes sampling of existing monitoring wells, recommendations for sampling of monitoring wells recently proposed for installation, and recommendations for chemical parameters to be included in the sampling program. The framework is based on a current understanding of the restoration plans for SWMUs and AOCs. Details for subsequent monitoring rounds will be developed based on results of the previous quarter and the overall remediation strategy for NAS Fort Worth JRB.

## 1.3 THE U.S. AIR FORCE INSTALLATION RESTORATION PROGRAM

The objective of the U.S. Air Force IRP is to assess past hazardous waste disposal and spill sites at U.S. Air Force installations and to develop remedial actions consistent with the National Contingency Plan for sites that pose a threat to human health and welfare or the environment.

Environmental contamination was identified at U.S. Air Force Plant No. 4 (AFP 4) through site investigations conducted during the 1980s. As a result, AFP 4 was placed on the National Priorities List (NPL) in August 1990. A Federal Facilities Agreement was entered into between the Texas Natural Resource Conservation Commission (TNRCC), U.S. Environmental Protection Agency (EPA) Region VI, and the U.S. Air Force. Remediation and monitoring information can be located in the following documents: Environmental Science and Engineering, Inc. (ESE), 1994; HydroGeoLogic, 1997; Parsons Engineering Science, Inc. (Parsons), 1997; Jacobs Engineering Group Inc. (Jacobs), 1998; and HydroGeoLogic 2000c.

Although the Air Force developed the IRP in response to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), NAS Fort Worth JRB is not listed on the NPL and as such is not subject to corrective action under CERCLA. The primary regulatory programs that govern the investigation and potential closure of NAS Fort Worth JRB sites are the Resource Conservation and Recovery Act (RCRA) and the TNRCC Risk Reduction Standards (RRS) Program. The TNRCC is the lead regulatory agency for activities to be conducted at the subject sites.

On February 7, 1991 the former Carswell Air Force Base (AFB) was issued a RCRA hazardous waste permit (HW-50289) by the TNRCC. This permit requires a RCRA facility investigation of all SWMUs listed in Permit Provision VIII (as well as those SWMUs subsequently added to the list) in order to determine whether hazardous constituents listed in 40 Code of Federal Regulations Part 264, Appendix IX, have been released into the environment.

A Memorandum of Understanding (MOU) was signed by the acting Secretaries of the Air Force and Navy on June 8 and 9, 1993. The MOU outlined the general terms under which the Air Force would transfer responsibility for portions of the former Carswell AFB to the Navy. The MOU established a final target date of September 20, 1994 for the transfer of host responsibilities from the Air Force to the Navy. On September 23, 1994, the Navy and Air Force executed another MOU to amend the previous MOU. The Navy assumed "host responsibilities" for NAS Fort Worth JRB, on October 1, 1994, but did not assume several key environmental program responsibilities.

In a letter dated February 26, 1996, the Air Force Deputy Assistant Secretary interpreted and amended the original MOU. This amendment confirmed the Air Force's acceptance of funding and management responsibilities for the final remediation of all environmental restoration requirements attributable to Carswell AFB operations that occurred prior to October 1, 1994. In a MOU dated June 19, 1996, the parties reached agreement regarding the cleanup of NAS Fort Worth JRB. The June 19, 1996 Cleanup MOU will control in the event that it conflicts on cleanup issues with this Compliance MOU (Air Force, 1997).

The primary emphasis of all site investigations is to meet the requirements of Permit Provision VIII of the NAS Fort Worth HW-50289 permit. However, as the IRP, TNRCC RRS, and RCRA rely heavily on guidance documents prepared under CERCLA, this GSAP has been prepared using guidance documents from all four programs.

## 1.4 SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

Since 1942, most hazardous waste generated through operations and activities at the base has been disposed of in landfills, reused on base, or processed through the Defense Property Disposal Office for off-base recycling or disposal. Since 1984, many of these sites (which include landfills, fire training areas, oil/water separators, and evidence of spills at waste accumulation areas) have been investigated. A total of 68 SWMUs have been identified at the base. Many were addressed as part of a RCRA Facility Assessment (RFA) conducted for what

was then Carswell AFB (A.T. Kearney, 1989), with additional SWMUs added later via letters from the TNRCC. Additionally, 16 AOCs were identified in either Permit HW-50289 for Carswell AFB issued by the TNRCC (formerly Texas Water Commission [TWC]) on February 13, 1991 (TWC, 1991) or by individual letters from the TNRCC. A number of the SWMUs and AOCs identified have been determined to require no further action (NFA) and are currently considered closed by the TNRCC (TNRCC, 1995). All SWMUs and AOCs are listed in Table 1.1 and Table 1.2, respectively, and the locations of the SWMUs and AOCs are shown on Figure 1.2.

Portions of the facility are subject to Air Force Base Realignment and Closure (BRAC) management, while other portions are managed by the Air Force Center for Environmental Excellence (AFCEE) under the Environmental Restoration Account (ERA). These management responsibilities are included on Table 1.1 and Table 1.2.

## 1.5 REPORT ORGANIZATION

Section 2.0 of this report provides a description of the environmental setting, while Section 3.0 includes a description of the monitoring activities performed during July 2000 as part of the basewide groundwater monitoring program. Section 4.0 of this report presents the quality assurance/quality control (QA/QC) program implemented for the project. Section 5.0 presents the analytical results and results of the activities described in Section 3.0. Section 6.0 provides a summary and interpretation of the quarterly sampling results. Section 7.0 lists references used in preparing this report. Appendix A presents field data, field notes, groundwater field sampling data sheets, field sampling reports, and chains of custody (COCs) for the July 2000 sampling event. Appendix B contains a summary of the analytical data for the July 2000 sampling event.

**Table 1.1**
**Solid Waste Management Units at NAS Fort Worth JRB, Texas**

| SWMU | Description | OPR |
|---|---|---|
| 1 | Pathological Waste Incinerator (NFA) | BRAC |
| 2 | Pathological Waste Storage Shed (NFA) | BRAC |
| 3 | Metal Cans (NFA) | BRAC |
| 4 | Facility Dumpsters (NFA) | BRAC |
| 5 | Building 1627 Waste Accumulation Area for Building 1628 | ERA |
| 6 | Building 1628 Wash Rack and Drain | ERA |
| 7 | Building 1628 Oil/Water Separator (NFA) | ERA |
| 8 | Building 1628 Sludge Collection Tank (NFA) | ERA |
| 9 | Building 1628 Work Station Waste Accumulation Area (NFA) | ERA |
| 10 | Building 1617 Work Station Waste Accumulation Area (NFA) | ERA |
| 11 | Building 1618 Waste Accumulation Area for Buildings 1617 and 1619 | ERA |
| 12 | Building 1602 Former Waste Accumulation Area | ERA |
| 13 | Building 1710 Visual Information Center Work Station Former Waste Accumulation Areas (NFA) | ERA |
| 14 | Building 1060 Bead Blaster Collection Tray (NFA) | BRAC |
| 15 | Building 1060 Paint Booth Vault (NFA) | BRAC |
| 16 | Building 1059 Waste Accumulation Area (NFA) | ERA |
| 17 | Landfill No. 7 | ERA |
| 18 | Fire Training Area No. 1 (NFA) | BRAC |
| 19 | Fire Training Area No. 2 | ERA |
| 20 | Waste Fuel Storage Tank | ERA |
| 21 | Waste Oil Tank | ERA |
| 22 | Landfill No. 4 | BRAC |
| 23 | Landfill No. 5 | BRAC |
| 24 | Waste Burial Area 7 | BRAC |
| 25 | Landfill No. 8 | BRAC |
| 26 | Landfill No. 3 | ERA |
| 27 | Landfill No. 10 (NFA) | ERA |
| 28 | Landfill No. 1 | ERA |
| 29 | Landfill No. 2 | ERA |
| 30 | Landfill No. 9 | ERA |
| 31 | Building 1050 Former Waste Accumulation Area | ERA |
| 32 | Building 1415 Waste Accumulation Area for Building 1410 | ERA |
| 33 | Building 1436 Waste Accumulation Area for Building 1420 (NFA) | ERA |
| 34 | Building 1194 Former Waste Accumulation Area (NFA) | ERA |
| 35 | Vehicle Refueling Shop (Building 1194) Oil/Water Separation System | ERA |
| 36 | Building 1191 Former Waste Accumulation Area | ERA |
| 37 | Vehicle Maintenance Shop (Building 1191) Oil/Water Separation System | ERA |
| 38 | Building 1269 PCB Transformers Building (NFA) | BRAC |
| 39 | Building 1643 Former Waste Accumulation Area (NFA) | ERA |
| 40 | Building 1643 Oil/Water Separation System | ERA |

**Table 1.1 (continued)**
**Solid Waste Management Units at NAS Fort Worth JRB, Texas**

| SWMU | Description | OPR |
|---|---|---|
| 41 | Building 1414 Oil/Water Separation System, Field Maintenance Squadron Aerospace Ground Equipment | ERA |
| 42 | Building 1414 Former Waste Accumulation Area (NFA) | ERA |
| 43 | Building 1414 Non Destructive Inspection (NDI) Waste Accumulation Point (NFA) | ERA |
| 44 | Building 1027 Oil/Water Separation System at the Aircraft Washing Hangar | ERA |
| 45 | Building 1027 Waste Oil Tank Vault | ERA |
| 46 | Building 1027 Waste Accumulation Area (NFA) | ERA |
| 47 | Building 1015 Jet Engine Test Cell Oil/Water Separator | ERA |
| 48 | Building 1048 Fuel Systems Shop Floor Drains (NFA) | ERA |
| 49 | Aircraft Washing Area No. 1 | ERA |
| 50 | Aircraft Washing Area No 2 | ERA |
| 51 | Central Waste Holding Area/Waste Accumulation Areas 1187 and 1189 | ERA |
| 52 | Building 1190 Oil/Water Separation System | ERA |
| 53 | Storm Water Drainage System | ERA |
| 54 | Storm Water Interceptors | ERA |
| 55 | East Gate Oil/Water Separator | ERA |
| 56 | Building 1405 Waste Accumulation Area (NFA) | ERA |
| 57 | Buildings 1432/1434 Waste Accumulation Area (NFA) | ERA |
| 58 | Pesticide Rinse Area (NFA) | BRAC |
| 59 | Building 8503 Weapons Storage Area Waste Accumulation Area | BRAC |
| 60 | Building 8503 Radioactive Waste Burial Site | BRAC |
| 61 | Building 1319 Waste Accumulation Area for Building 1320 | ERA |
| 62 | Landfill No. 6 | ERA |
| 63 | Entomology Dry Well (NFA) | ERA |
| 64 | French Underdrain System | ERA |
| 65 | Weapons Storage Area Disposal Site (NFA) | BRAC |
| 66 | Sanitary Sewer System | BRAC |
| 67 | Building 1340 Oil/Water Separator | ERA |
| 68 | POL Tank Farm | ERA |

Notes:
BRAC - Base Realignment and Closure
ERA - Environmental Restoration Account
NFA - No further action
OPR - Office of Primary Responsibility
PCB - Polychlorinated biphenyl
POL - Petroleum, oil, and lubricant

**Table 1.2**
**Areas of Concern at NAS Fort Worth JRB, Texas**

| AOC | Description | OPR |
|---|---|---|
| 1 | Former Base Service Station/ Former Base Gas Station | ERA |
| 2 | Airfield Groundwater Plume | ERA |
| 3 | Waste Oil Dump (NFA) | ERA |
| 4 | Fuel Hydrant System | ERA |
| 5 | Grounds Maintenance Yard | BRAC |
| 6 | Recreational Vehicle Storage Area (NFA) | ERA |
| 7 | Former Base Refueling Area | ERA |
| 8 | Aerospace Museum | BRAC |
| 9 | Golf Course Maintenance Yard (NFA) | BRAC |
| 10 | Building 1064 O/W Separator | ERA |
| 11 | Building 1060 O/W Separator | ERA |
| 12 | Building 4210 O/W Separator | ERA |
| 13 | Building 1145 O/W Separator | ERA |
| 14 | Unnamed Stream | BRAC |
| 15 | Storage Shed Building 1190 (NFA) | ERA |
| 16 | Family Camp (NFA) | BRAC |
| 17 | Suspected Former Landfill | ERA |
| 18 | Suspected Former Fire Training Area A | ERA |
| 19 | Suspected Former Fire Training Area B | ERA |

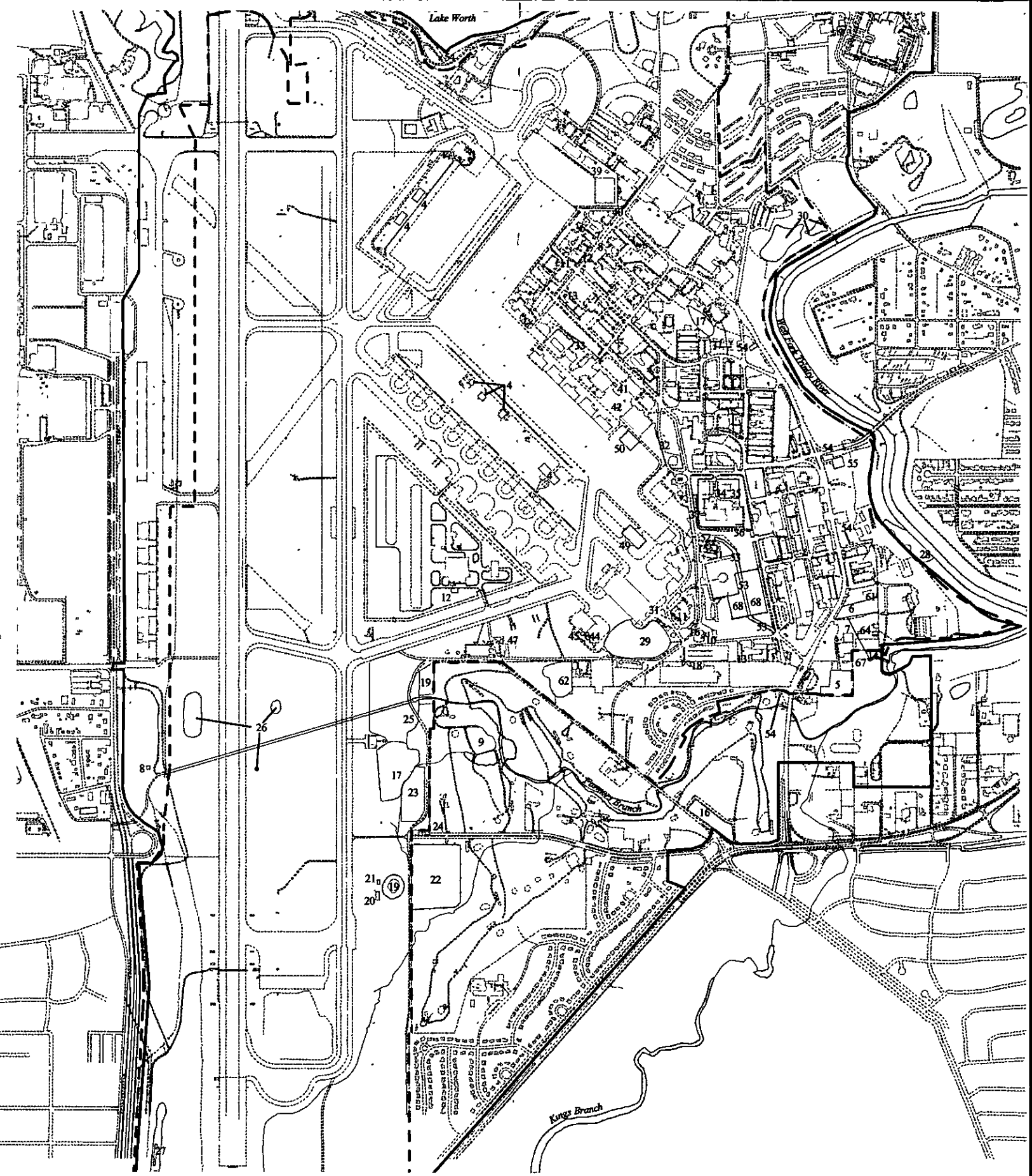
Notes.
BRAC - Base Realignment and Closure
ERA - Environmental Restoration Account
NFA - No further action
OPR - Office of Primary Responsibility
O/W - oil/water

## Areas of Concern (AOC)

1 Former Base Service Station/ Former Base Gas Station
2 Airfield Groundwater (Basewide Coverage)
4 Fuel Hydrant System
5 Grounds Maintenance Yard
6 RV Storage Area
7 Former Base Refueling Area
8 Aerospace Museum
9 Golf Course Maintenance Yard
10 O/W Separator
11 O/W Separator
12 O/W Separator
13 O/W Separator
14 Unnamed Stream
15 Storage Shed
16 Family Camp
17 Suspected Former Landfill
18 Suspected Former Fire Training Area A
19 Suspected Former Fire Training Area B

## Solid Waste Management Units (SWMU)

5 Building 1626 Waste Accumulation Area
6 Building 1628 Wash Rack and Drain
7 Building 1628 Oil/Water Separator
8 Building 1628 Sludge Collection Tank
11 Building 1617 Waste Accumulation Area
12 Building 1619 Waste Accumulation Area
13 Building 1710 Visual Information Center Work Station Waste Accumulation Areas
16 Building 1060 Waste Accumulation Area
17 Landfill No 7
19 Fire Training Area No 2
20 Waste Fuel Storage Tank
21 Waste Oil Tank
22 Landfill No 4
23 Landfill No 5
24 Waste Burial Area
25 Landfill No 8
26 Landfill No 3
27 Landfill No 10
28 Landfill No 1
29 Landfill No 2
30 Landfill No 9
31 Building 1050 Waste Accumulation Area
32 Building 1410 Waste Accumulation Area
33 Building 1420 Waste Accumulation Area
34 Building 1194 Waste Accumulation Area
35 Vehicle Refueling Shop (Building 1194) Oil/Water Separation System
36 Building 1191 Waste Accumulation Area
37 Vehicle Maintenance Shop (Building 1191) Oil/Water Separation System
39 Building 1643 Waste Accumulation Area
40 Building 1643 Oil/Water Separation System
41 Building 1414 Oil/Water Separation System, Field Maintenance Squadron Aerospace Ground Equipment
42 Building 1414 Waste Accumulation Area
44 Building 1027 Oil/Water Separation System at the Aircraft Washing Hangar
45 Building 1027 Waste Oil Tank Vault at the Aircraft Washing Hangar
47 Building 1015 Jet Engine Test Cell Oil/Water Separator
49 Aircraft Washing Area No 1
50 Aircraft Washing Area No.2
51 Building 1190 Central Waste Holding Area
52 Building 1190 Oil/Water Separation System
53 Storm Water Drainage System
54 Storm Water Interceptors
55 East Gate Oil/Water Separator
61 Building 1320 Power Production Maintenance Facility Waste Accumulation Area
62 Landfill No 6
64 French Underdrain System
66 Sanitary Sewer System (Basewide Coverage)
67 Building 1340 Oil/Water Separator
68 POL Tank Farm




*HydroGeoLogic, Inc —July 2000 Quarterly Report*
*NAS Fort Worth JRB, Texas*

**Figure 1.2**

**SWMU/AOC Location Map**

U.S. Air Force Center for Environmental Excellence

**Legend**

- - - - NAS Fort Worth JRB (Carswell Field)
——— Property Boundary of Air Force Plant 4
——— Former Carswell Air Force Base
Solid Waste Management Unit (SWMU)
Area of Concern (AOC)

N

1000 0 1000 2000
SCALE IN FEET

*Filename: X:\AFC001\33DCBA\Report\SWMU_AOC_loc.apr*
*Project: AFC001-33DCBA*
*Revised: 10/04/00 jb*
*Map Source. Jacobs, 1996*
*HydroGeoLogic GIS Database, 2000*

HYDRO GeoLogic Inc.

# TAB

Section 2.0

# 2.0 SITE DESCRIPTION

On October 1, 1994, the Air Force transferred the majority of the property that constituted Carswell AFB to the U.S. Navy to become NAS Fort Worth JRB. NAS Fort Worth JRB is located on 2,264 acres of land in Tarrant County, Texas, 8 miles west of downtown Fort Worth. The base is bordered by Lake Worth to the north; the West Fork Trinity River, River Oaks, and Westworth Village to the east; other urban areas of Fort Worth to the northeast and southeast; White Settlement to the west and southwest; and AFP 4 to the west (Figure 2.1). The area surrounding NAS Fort Worth JRB is mostly suburban. Land use in the immediate vicinity of the base is industrial, commercial, residential, and recreational (A.T. Kearney, 1989).

## 2.1 PHYSIOGRAPHY

The NAS Fort Worth JRB area is located along the border zone between two physiographic provinces. The southeastern part of the base is situated within the Grand Prairie section of the Central Lowlands Physiographic Province. The Central Lowlands Physiographic Province is characterized by broad, eastward-sloping terrace surfaces that are interrupted by westward-facing escarpments. The land surface is typically grass covered and treeless except for isolated stands of upland timber. The northwestern part of the NAS Fort Worth JRB area is situated within the Western Cross Timbers Physiographic Province, which is characterized by rolling topography and a heavy growth of post and blackjack oaks (Radian Corporation [Radian], 1989). Surface elevations for this region range from about 850 feet above national geodetic vertical datum (NGVD) west of the base, to approximately 550 feet above NGVD, along the eastern side of the base. Figure 2.1 is a portion of the Lake Worth and Benbrook Texas, U.S. Geological Survey (USGS) topographic maps showing the relief of the NAS Fort Worth JRB Area.

## 2.2 REGIONAL GEOLOGY

The major geologic units of interest for the region, from youngest to oldest, are as follows: (1) the Quaternary Alluvium (including fill material and terrace deposits), (2) the Cretaceous Goodland Limestone, (3) the Cretaceous Walnut Formation, (4) the Cretaceous Paluxy Formation, (5) the Cretaceous Glen Rose Formation, and (6) the Cretaceous Twin Mountains Formation. A generalized cross section of the geology beneath NAS Fort Worth JRB is presented in Figures 2.2 and 2.3 (Radian, 1989). The areal limits of surface exposure of these geologic units at NAS Fort Worth JRB are shown in Figure 2.4. The regional dip of these stratigraphic units beneath NAS Fort Worth JRB is between 35 to 40 feet per mile in an easterly to southeasterly direction. NAS Fort Worth JRB is located on the relatively stable Texas Craton, west of the faults that lie along the Ouachita Structural Belt. No major faults or fracture zones have been mapped near the base.

## 2.3 GROUNDWATER

The following five hydrogeologic units, listed from the shallowest to the deepest, located in the NAS Fort Worth JRB area include (Figure 2.5): (1) an upper perched-water zone occurring in

692 32

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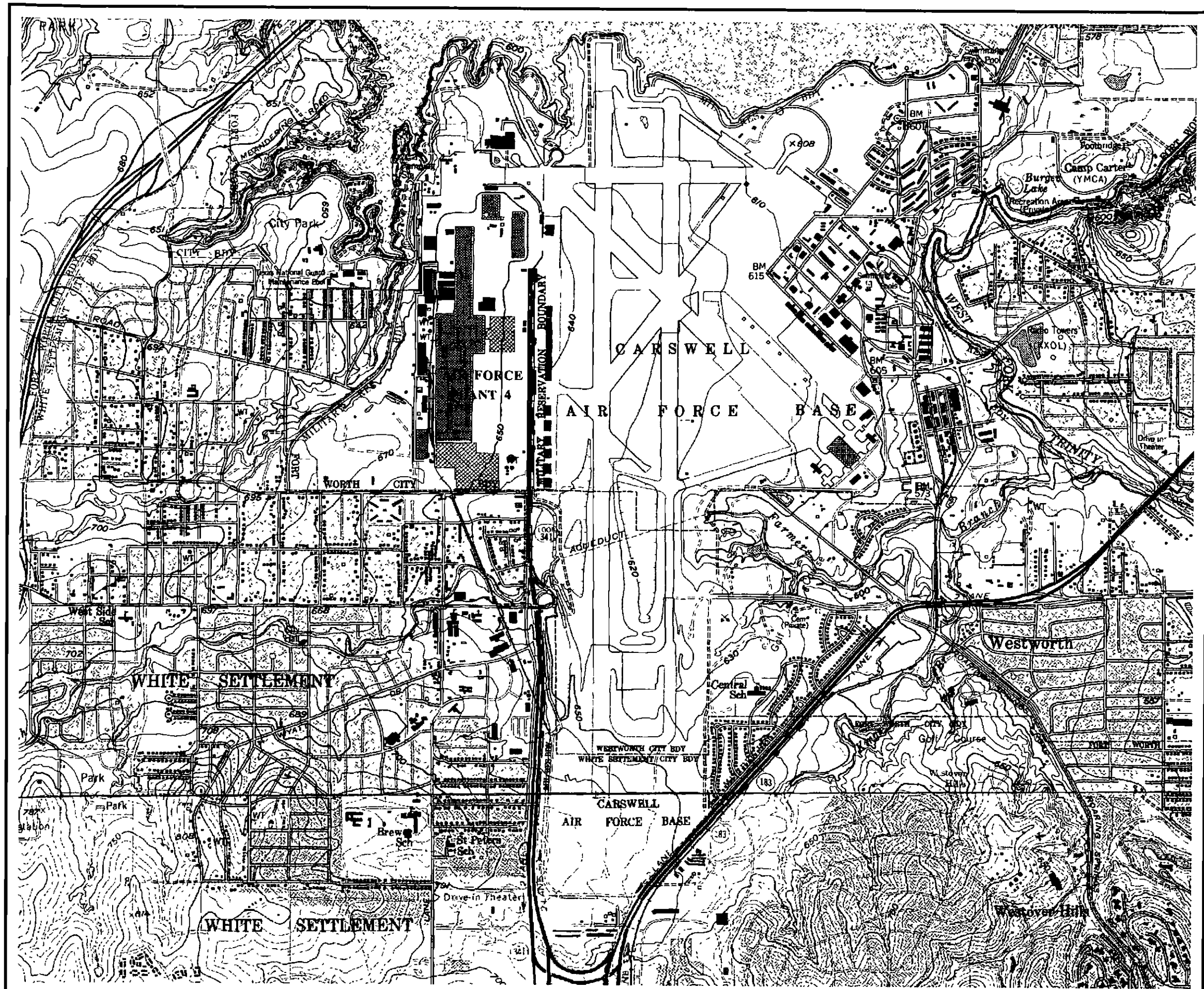
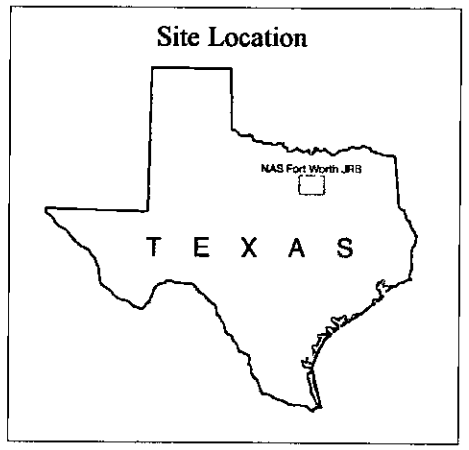
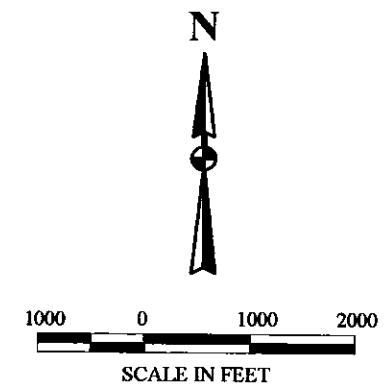



**Figure 2.1**

**NAS Fort Worth JRB**
**Regional Topographic Map**

**Air Force Center for Environmental Excellence**

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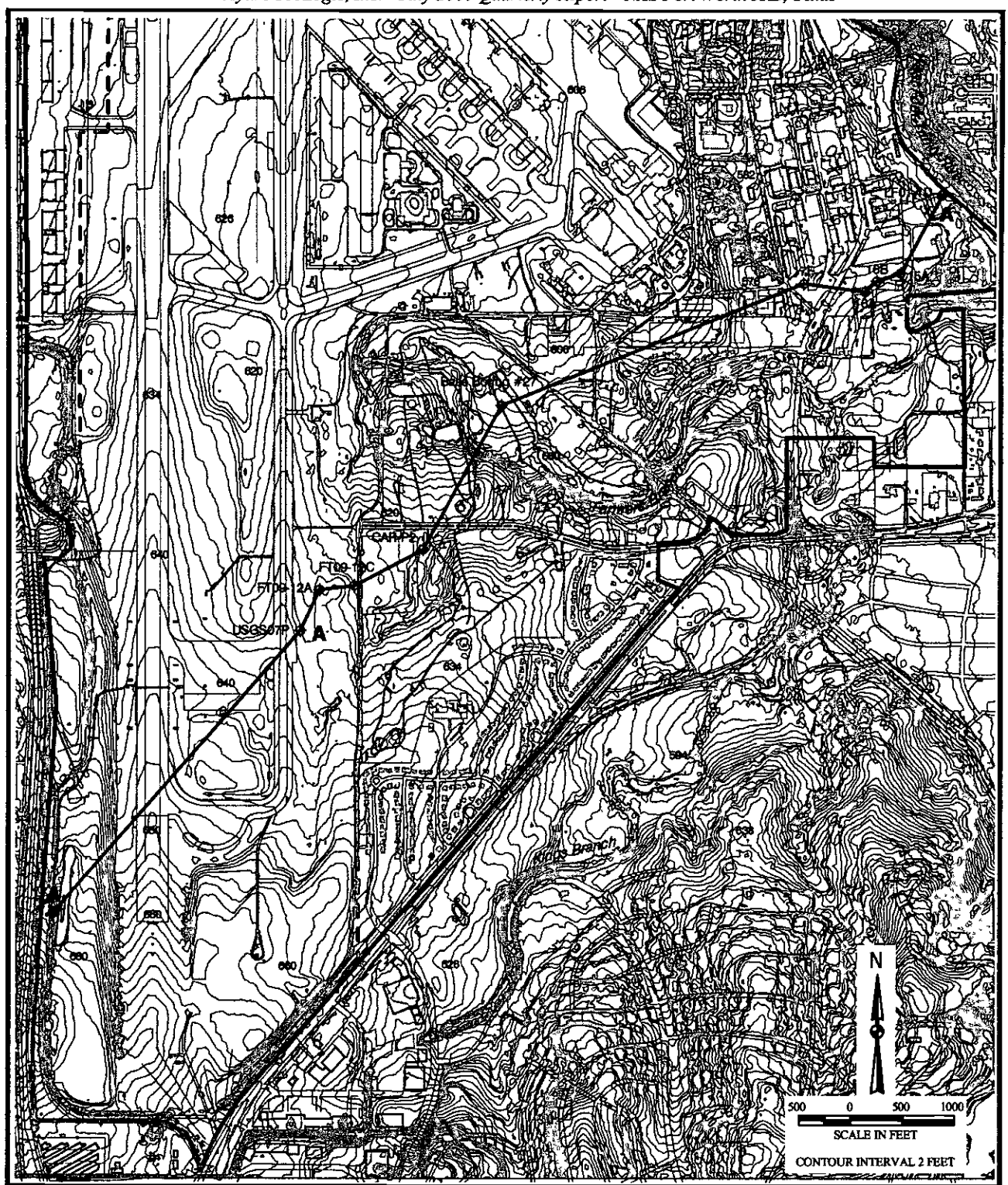
*Dates: Photorevised 1981, 1982*

HYDRO GeoLogic

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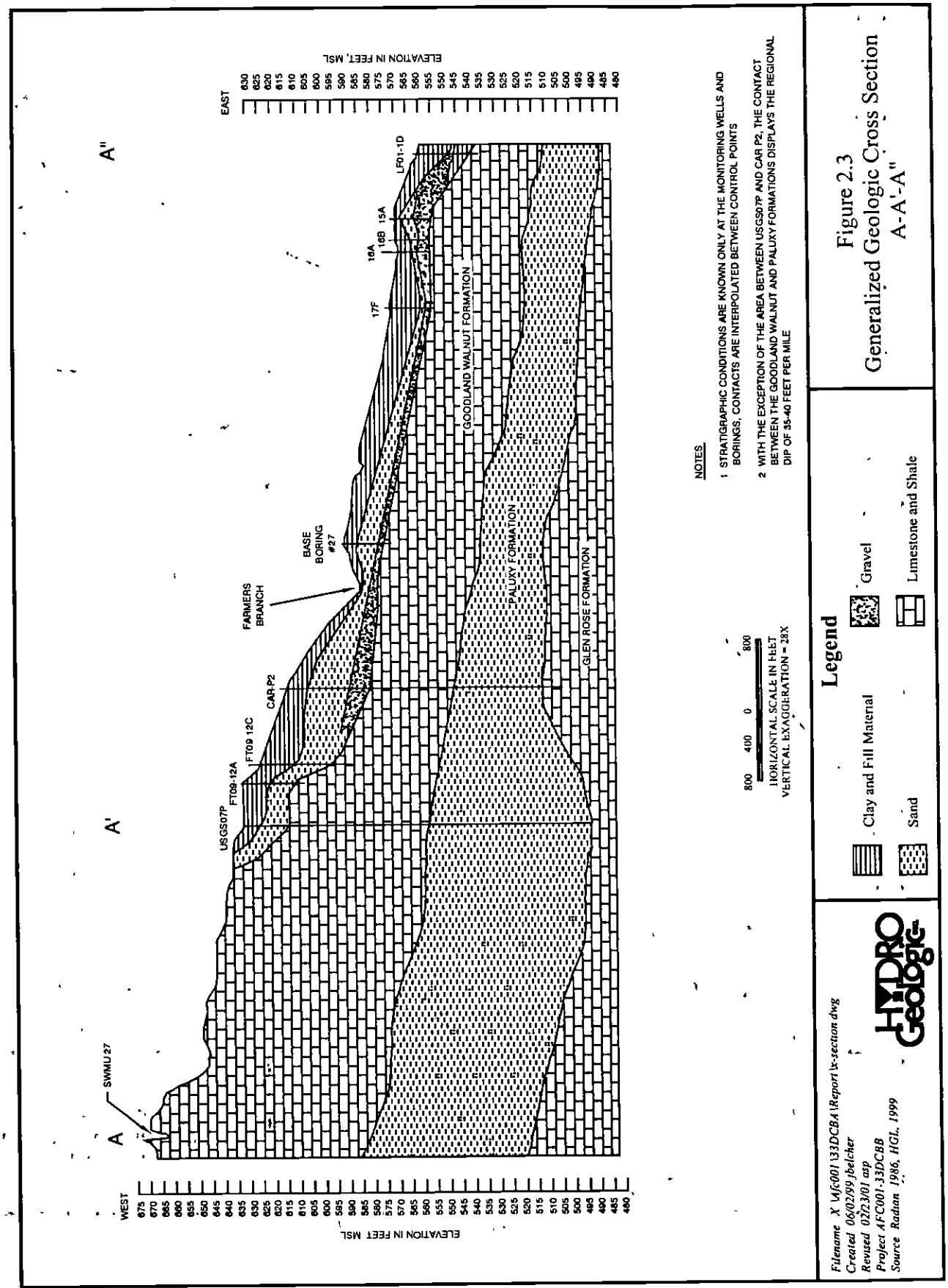
*Revised 02/23/01 aSp*
*Source HydroGeoLogic, Inc—GIS Database*

**Legend**

- NAS Fort Worth JRB Boundary
- Former Carswell AFB Boundary
- SWMU 27 Location
- 660 Topographic Contour

**Figure 2.2**
**Cross Section Location**
**A-A'-A''**


A
A'
A"
SWMU 27
WEST
EAST
ELEVATION IN FEET, MSL
USGS07P
FT09-12A
FT09-12C
CAR-P2
FARMERS BRANCH
BASE BORING #27
17F
16A
16B
15A
LF01-1D
GOODLAND WALNUT FORMATION
PALUXY FORMATION
GLEN ROSE FORMATION
NOTES
1 STRATIGRAPHIC CONDITIONS ARE KNOWN ONLY AT THE MONITORING WELLS AND BORINGS, CONTACTS ARE INTERPOLATED BETWEEN CONTROL POINTS
2 WITH THE EXCEPTION OF THE AREA BETWEEN USGS07P AND CAR P2, THE CONTACT BETWEEN THE GOODLAND WALNUT AND PALUXY FORMATIONS DISPLAYS THE REGIONAL DIP OF 35-40 FEET PER MILE
800 400 0 800
HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION = 28X
Legend
Clay and Fill Material
Gravel
Sand
Limestone and Shale
Figure 2.3
Generalized Geologic Cross Section
A-A'-A"
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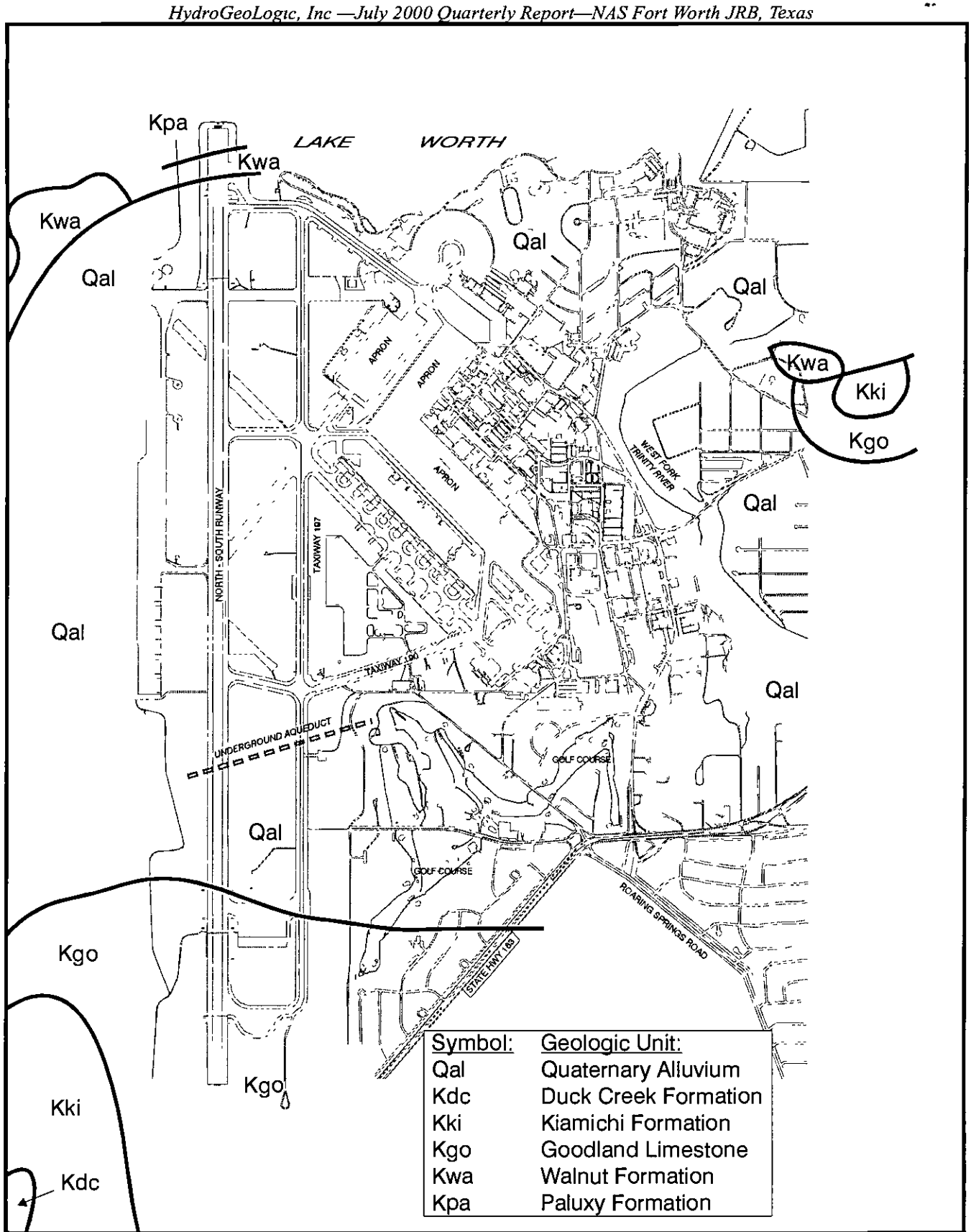
Created 06/02/99 jbelcher
Revised 02/23/01 asp
Project AFC001-33DCBB
Source Radian 1986, HGL 1999
HYDRO GeoLogic

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*Map Source Radian, 1989*

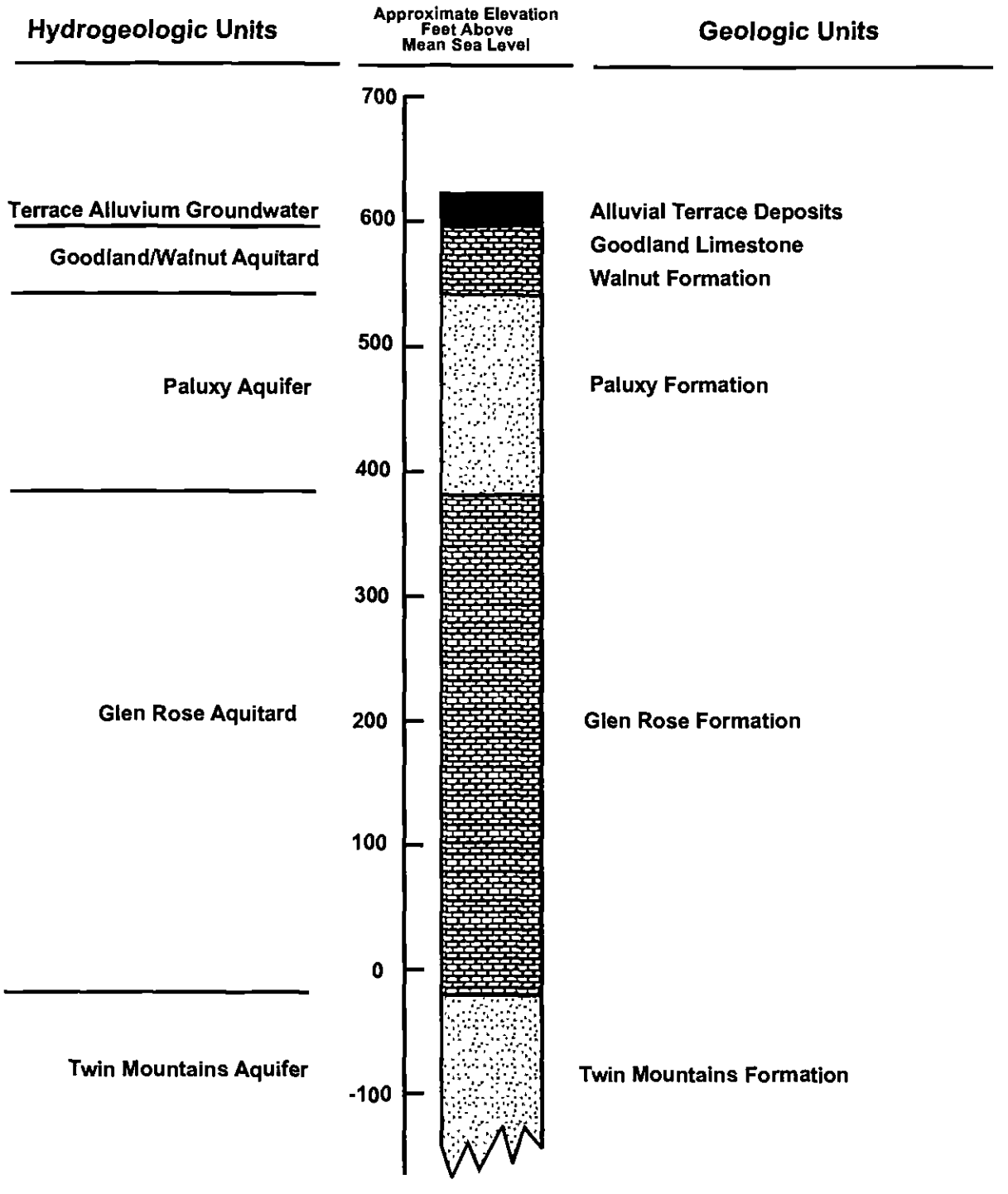
HYDRO GeoLogic INC.

**Legend**

0 1000 2000
SCALE IN FEET

N

**Figure 2.4**
**Areal Distribution of Geologic Units**

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*Project AFC001-33DCBB*
*Map Source Radian, 1989*

**Legend**

- Alluvium
- Limestone
- Sandstone

**Figure 2.5**
**Stratigraphic Column Correlating Hydrogeologic Units and Geologic Units**

the alluvial terrace deposits associated with the Trinity River (Terrace Alluvium), (2) an aquitard of predominantly dry limestone with interbedded fine-grained clay and shale layers of the Goodland and Walnut Formations, (3) an aquifer in the sandstone of the Paluxy Formation, (4) an aquitard of relatively impermeable limestone in the Glen Rose Formation, and (5) a major aquifer in the sandstone of the Twin Mountains Formation. Table 2.1 presents additional information on the stratigraphic units found beneath NAS Fort Worth JRB. Each of the major lithologic units beneath NAS Fort Worth JRB is examined in more detail in the following paragraphs.

### 2.3.1 Terrace Alluvium Deposits

The uppermost groundwater in the area occurs within the pore space of the grains of silt, clay, sand, and gravels deposited by the Trinity River. In some parts of Tarrant County, primarily in those areas adjacent to the Trinity River, groundwater from the terrace deposits is used for irrigation and residential use. However, groundwater from the terrace deposits is not often used as a source of potable water due to its limited distribution, poor yield, and susceptibility to surface/storm-water pollution (USGS, 1996). No potable water supply wells are completed in the Terrace Alluvium within 0.5 miles of NAS Fort Worth JRB.

Recharge to the water-bearing deposits occurs through infiltration from precipitation and from surface water bodies. Extensive on-site pavement and construction restricts this recharge. Additional recharge, however, comes from leakage in water lines, sewer systems, storm drains, and cooling water systems. This inflow of water to the shallow aquifer locally affects groundwater flow patterns and contamination transport. The estimated hydraulic conductivity of the Terrace Alluvium groundwater is 4.57 gallons per day per square foot (gpd/ft$^2$) (Radian, 1989).

Flow between aquifers is restricted by the Goodland/Walnut Formations; therefore, the Terrace Alluvium groundwater has no significant hydraulic connection to the underlying aquifers at NAS Fort Worth JRB. No evidence of contamination of the Paluxy aquifer has been found beneath NAS Fort Worth JRB.

The primary flow direction of water in the Terrace Alluvium is generally eastward toward the West Fork Trinity River, although localized variations exist across the base. The hydraulic gradient across the base is variable, reflecting variations in the flow direction and localized recharge. Groundwater discharge occurs into surface water on-site, specifically Farmers Branch Creek. Potentiometric maps of NAS Fort Worth JRB Terrace Alluvium groundwater developed from data obtained in previous gauging events show an easterly trend in groundwater flow across the base toward the West Fork Trinity River.

**Table 2.1**
**Stratigraphic Units at NAS Fort Worth JRB, Texas[1]**

| Era | System | Series/Group | Strati-Graphic Unit | Thick-Ness (Feet)[2] | Lithologic Characteristics[3] | Water-Yielding Characteristics |
|---|---|---|---|---|---|---|
| Cenozoic | Quaternary (1.8 mya to present) | Holocene | Fill material | 0 | Construction debris | Permeability varies; gravels and sands permeable |
| | | | Recent alluvial deposits | 0-50 | Gravel, sand, silt, clay | Permeability varies; gravels and sands permeable |
| | | Pleistocene | Terrace alluvial deposits | 0-60 | Gravel, sand, silt, clay | Permeability varies; gravels and sands permeable |
| Mesozoic | Cretaceous (65 to 140 mya) | Comanchean/ Fredericksburg | Goodland limestone | 0-40 | White fossiliferous limestone, coarsely nodular, resistant, and dense; contains some marl | Impermeable where not weathered; considered confining unit |
| | | | Walnut Formation | 0.5-30 | Medium to dark grey clay and limestone with shell conglomerates, fossiliferous, Gryphaea beds | Very low permeability; considered confining unit |
| | | Comanchean/ Trinity | Paluxy Formation | 130-175 | Light grey to greenish-grey sandstone and mudstone; fine-grained to coarse-grained sandstone | Considered an aquifer; yields small to moderate quantities of water |
| | | | Glen Rose Formation | 150, range unknown at AFP 4 | Brownish-yellow and gray alternating limestone, marl, shale, and sand | Low permeability; considered confining unit in area of AFP 4 |
| | | | Twin Mountains Formation[4] | 200, range unknown at AFP 4 | Fine- to coarse-grained sandstone shale and claystone, basal gravel conglomerate | Coarse sandstones and parts of formation considered aquifer; yields moderate to large quantities of water |

Notes:
1 Table adapted from USGS, 1996.
2 Thickness determined from site logs, except for Glen Rose Limestone and Twin Mountains Formation (Baker et al., 1990, Figure 4, as cited in USGS 1996).
3 Lithologic characteristics determined from field observations and from Winton and Adkins, 1919; University of Texas, Bureau of Economic Geology, 1972; U.S. Army Corps of Engineers, 1986; Baker et al , 1990; Environmental Science and Engineering, Inc., 1994, all as cited in USGS 1996
4 This stratigraphic name does not conform to the usage of the USGS.

mya - Million years ago

### 2.3.2 Goodland/Walnut Aquitard

The groundwater within the terrace deposits is isolated from groundwater within the lower aquifers by the low permeability rocks of the Goodland Limestone and Walnut Formations. The primary inhibitors to vertical groundwater movement within these units are the fine-grained clay and shale layers that are interbedded with layers of limestone. Some groundwater movement does occur between the individual bedding planes of both of these units, but the vertical hydraulic conductivity has been calculated to range between $7.3 \times 10^{-11}$ centimeters per second (cm/s) to $1.2 \times 10^{-09}$ cm/s for the NAS Fort Worth JRB and AFP 4 area. This corresponds to a vertical advective velocity rate that ranges between $1.16 \times 10^{-03}$ feet per day (ft/d) to $5.22 \times 10^{-03}$ ft/d (ESE, 1994). At the AFP 4 "window area," the Goodland/Walnut Aquitard is breached, and the Alluvial Terrace groundwater is in direct communication with the groundwater in the Paluxy aquifer. A significant number of monitoring wells and borings have been advanced on NAS Fort Worth JRB, and no evidence has been found indicating that a similar window exists on the base property.

### 2.3.3 Paluxy Aquifer

The Paluxy aquifer is an important source of potable groundwater for the Fort Worth area. Many of the surrounding communities, particularly White Settlement, obtain their municipal water supplies from the Paluxy aquifer. Groundwater from the Paluxy aquifer is also used in some of the surrounding farms and ranches for agricultural purposes. Due to the extensive use of the Paluxy aquifer, water levels have declined significantly over the years. Water levels in the NAS Fort Worth JRB vicinity have not decreased as much as in the Fort Worth area due to its proximity to the Lake Worth recharge area and the fact that the base does not use water from the Paluxy aquifer. Drinking water at the base is supplied by the city of Fort Worth, which uses Lake Worth as its water source. The groundwater of the Paluxy aquifer is contained within the openings created by gaps between bedding planes and cracks and fissures in the sandstones of the Paluxy Formation. Just as the Paluxy Formation is divided into upper and lower sand members, the aquifer is likewise divided into upper and lower aquifers. The upper sand is finer grained and contains a higher percentage of shale than the lower sand. Radian (1989) estimated the hydraulic conductivity and transmissivity to be 130 to 140 gpd/ft$^2$ and 1,263 to 13,808 gallons per day per foot (gpd/ft), respectively. No evidence of contamination of the Paluxy Aquifer has been found beneath NAS Fort Worth JRB.

### 2.3.4 Glen Rose Aquitard

Below the Paluxy aquifer are the fine-grained limestone, shale, marl, and sandstone beds of the Glen Rose Formation. The thickness of the formation ranges from 250 to 450 feet. Although the sands in the Glen Rose Formation yield small quantities of groundwater in the area, the relatively impermeable limestone acts as an aquitard restricting water movement between the Paluxy aquifer above and the Twin Mountains aquifer below.

### 2.3.5 Twin Mountains Aquifer

The Twin Mountains Formation is the oldest and deepest water supply source used in the NAS Fort Worth JRB area. The Twin Mountains Formation occurs approximately 600 feet below NAS Fort Worth JRB with a thickness of between 250 to 430 feet. Recharge to the Twin Mountains aquifer occurs west of NAS Fort Worth JRB where the formation crops out. Groundwater movement follows the regional eastward slope of the bedrock. Like the groundwater in the Paluxy aquifer, the Twin Mountains groundwater occurs under unconfined conditions in the recharge area and becomes confined as it moves downdip. Transmissivities in the Twin Mountain aquifer range from 1,950 to 29,700 gpd/ft and average 8,450 gpd/ft in Tarrant County. Permeabilities range from 8 to 165 gpd/ft$^2$ and average 68 gpd/ft$^2$ in Tarrant County (CH2M HILL, 1984).

## 2.4 SURFACE WATER

NAS Fort Worth JRB is located within the Trinity River Basin adjacent to Lake Worth. The main surface water features of interest are Lake Worth, the West Fork Trinity River, and Farmers Branch Creek. Lake Worth, which was constructed in 1941 as a source of municipal water for the city of Fort Worth, borders the base to the north of NAS Fort Worth JRB. The surface area of the lake is approximately 2,500 acres. The Paluxy aquifer discharges to Lake Worth near its western extent. However, in the portion of the lake near Bomber Road, the top of the Paluxy aquifer is recharged by Lake Worth. There does not appear to be a hydraulic connection between the Paluxy aquifer and the lake in the eastern portion where the Walnut Formation separates the Paluxy aquifer and Lake Worth. The elevation of the lake is fairly constant at approximately 594 feet above NGVD, the fixed elevation of the dam spillway (USGS, 1996).

The West Fork Trinity River, a major river in north central Texas, defines the eastern boundary of the base. The Trinity River flows southeast towards the Gulf of Mexico. Because the river has been dammed, the 100- and 500-year flood plains downstream of the dam do not extend more than 400 feet from the center of the river or any of its tributaries.

Storm water, which enters the NAS Fort Worth storm water drainage system, is discharged directly into Lake Worth. The outfall is permitted under the National Pollutant Discharge Elimination System (NPDES), and monitoring results document compliance with permit discharge limitations (IT Corporation, 1997).

Storm water which does not enter the drainage system, drains east towards the West Fork Trinity River. A portion of the base is drained by Farmers Branch Creek, a tributary to the West Fork Trinity River. Farmers Branch Creek begins within the community of White Settlement and flows eastward. Most of the flow in the creek is due to surface runoff, with some groundwater recharge from the Terrace Alluvium groundwater. Just south of AFP 4, Farmers Branch flows under the runway within two large culverts identified as an aqueduct. Two unnamed tributaries flow across the Flightline Area and discharge into Farmers Branch Creek. Another unnamed stream (approximately 200 feet long) is located in the SD13 area and discharges to Farmers Branch Creek as well. Most of the base drainage is intercepted by a

series of storm drains and culverts, directed to oil/water separators, and discharged to the West Fork Trinity River downstream of Lake Worth. A small portion of the north end of the base drains directly into Lake Worth.

## 2.5 CLIMATE

The climate in the Fort Worth area is classified as sub-humid with long, hot summers and short, dry winters. Tropical maritime air masses control the weather during much of the year, but the passage of polar cold fronts and continental air masses can create large variations in winter temperatures. The average annual temperature in the area is 68.6 degrees Fahrenheit (°F), and monthly mean temperatures vary from 48.6°F in January to 86.1°F in July. The average daily minimum temperature in January is 35°F, and the lowest recorded temperature is 17°F. The average daily maximum temperature in July and August is 96.4°F, and the highest temperature ever recorded in the Dallas/Fort Worth area was 111°F in the month of September 2000. Freezing temperatures occur at NAS Fort Worth JRB an average of 33 days per year (National Weather Service, 2000).

Mean annual precipitation recorded at the base is approximately 32 inches. The wettest months are April and May, with a secondary maximum in September. The period from November to March is generally dry, with a secondary minimum in August. Snowfall accounts for a small percentage of the total precipitation between November and March. Thunderstorm activity occurs at the base an average of 45 days per year, with the majority of the activity between April and June. Hail may fall 2 to 3 days per year. The maximum precipitation recorded in a 24-hour period is 1.49 inches. On the average, measurable snowfall occurs 2 days per year.

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# TAB

Section 3.0

# 3.0 MONITORING ACTIVITIES

This section describes the procedures performed during the July 2000 quarterly groundwater sampling event at NAS Fort Worth JRB. All work was performed in accordance with the Final GSAP (HydroGeoLogic, 2000a) and Final Basewide QAPP (HydroGeoLogic, 2000b).

Monitoring activities included:

- Monitoring well inspection/maintenance
- Water level measurements
- Monitoring well purging and analytical sampling
- Investigative-derived waste (IDW) management
- Laboratory and field analysis

## 3.1 MONITORING WELL INSPECTION/MAINTENANCE

A full well inspection and maintenance was performed at all 273 monitoring wells following the July 2000 sampling event. A visual inspection of each monitoring well proposed for sampling was conducted to determine the monitoring well's condition and integrity. As part of the monitoring well inspection procedure, the integrity of the surface features, such as, the concrete pad, security posts, and the manhole cover, were thoroughly examined and the maintenance needs were recorded. The monitoring well casing, cap, and any security features such as locks, monitoring well identification and bolts, were repaired or replaced as appropriate, or noted for future maintenance. Following the visual inspection of each monitoring well, a photoionization detector (PID) was used to measure the levels of organic vapors in the background area, breathing zone, and at the top of each well casing immediately after the well cap had been removed. All well inspection and measurement data were recorded on the monitoring well maintenance forms provided in Appendix A.1 and in the field notes provided in Appendix A.2.

## 3.2 WATER LEVEL MEASUREMENTS

In order to evaluate existing groundwater flow patterns, 273 monitoring wells located east of AFP 4 were used for water level measurements during the July sampling event. The locations of these wells are provided in Figure 3.1. The monitoring wells were inspected, and both depth to water and total depth of the monitoring well were measured. For wells containing dedicated sampling equipment, the pumps were temporarily removed. The water level measurements and total depths were taken several days after purging and sampling the monitoring wells, or after the dedicated sampling equipment was removed, to ensure equilibrium conditions. After water level measurements were recorded, dedicated sampling equipment was replaced.

Each monitoring well was checked for total depth to determine whether fine materials have accumulated inside the monitoring well casing. For monitoring wells that contain an

692 · 46.

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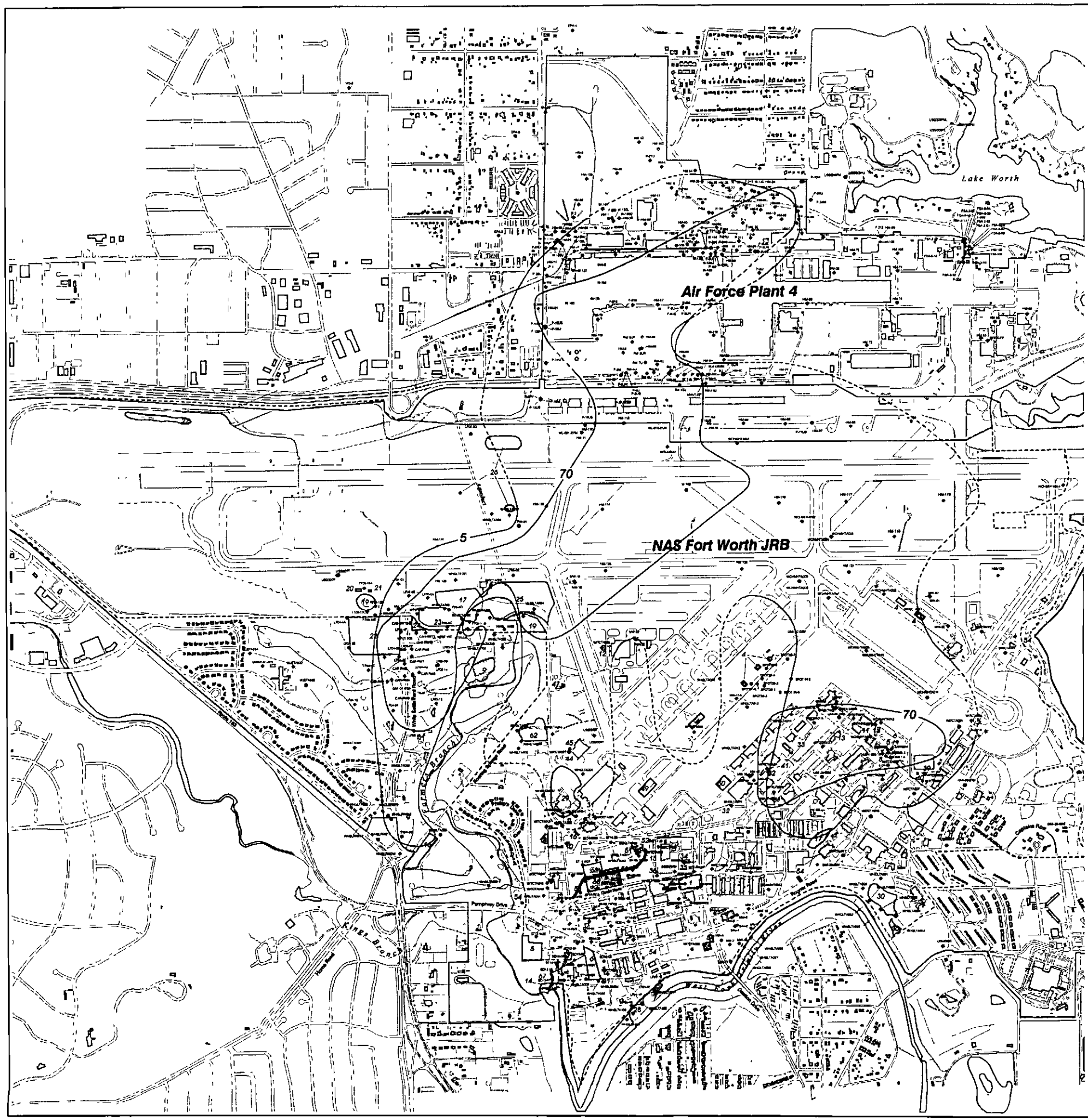



HydroGeoLogic, Inc.—July 2000 Quarterly Report
NAS Fort Worth JRB, Texas

# Figure 3.1

## Summary of Analytical Sampling July 2000

U.S. Air Force Center For Environmental Excellence

### Legend

- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- Trichloroethene Plume Boundary set at MCL (5 µg/L) (AFP 4 contours based on April 2000 data)
- *cis*-1,2-Dichloroethene Plume Boundary set at MCL (70 µg/L) (AFP 4 contours based on April 2000 data)
- USC0047 Semi-Annual Plume Monitoring Wells (January & July)
- USC0047 Semi-Annual Plume Monitoring Wells (April & October)
- USC0047 Quarterly Plume Monitoring Wells
- MW10 AOC 1 Monitoring Wells
- WHCLTA010 AOC 4 Monitoring Wells
- HM120 AFP 4 Semi-Annual Monitoring Wells
- ST1429 Remedial Action Plan Monitoring Wells
- WTCTA011 Other Wells

Note: Dashed contour indicates interpreted plume boundary

### Area of Concern (AOC)

1. Former Base Service Station/Former Base Gas Station
2. Artificial Groundwater (Rainwater Coverage)
3. Fuel Hydrant System
4. Grounds Maintenance Yard
5. HV Storage Area
6. Former Base Refueling Area
7. Aerospace Museum
8. Golf Course Maintenance Yard
9. O/W Separator
10. O/W Separator
11. O/W Separator
12. O/W Separator
13. O/W Separator
14. Unnamed Stream
15. Storage Shed
16. Family Camp
17. Former Landfill
18. Suspected Former Fire Training Area A
19. Suspected Former Fire Training Area B

### Solid Waste Management Unit (SWMU)

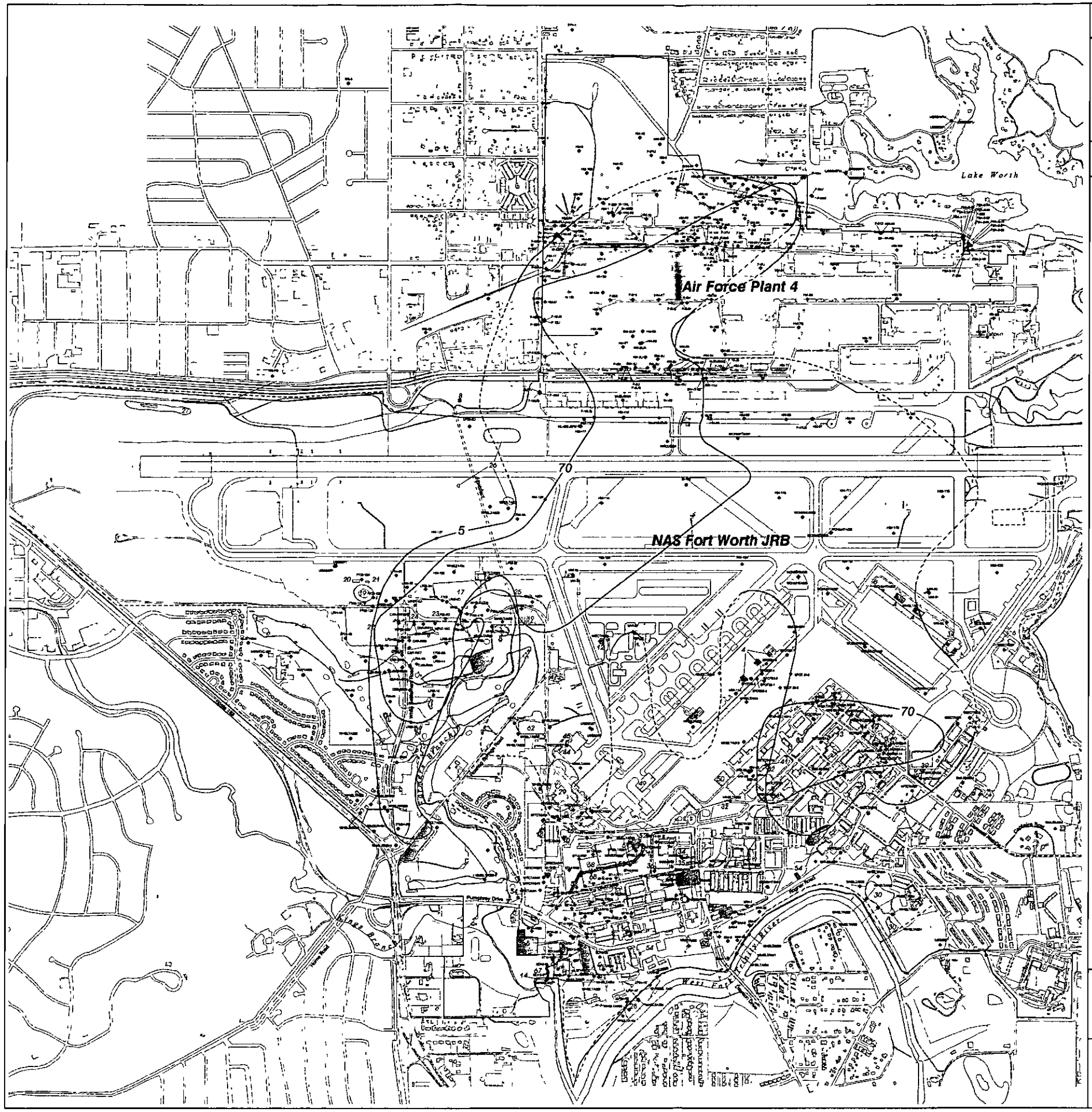
5. Building 1628 Waste Accumulation Area
6. Building 1628 Wash Rack and Drain
7. Building 1628 Oil/Water Separator
8. Building 1628 Sludge Collection Tank
11. Building 1611 Waste Accumulation Area
12. Building 1619 Waste Accumulation Area
13. Building 1710 Visual Information Center Work Station Waste Accumulation Areas
16. Building 1060 Waste Accumulation Area
17. Landfill No.7
18. Fire Training Area No.2
20. Waste Fuel Storage Tank
21. Waste Oil Tank
22. Landfill No.4
23. Landfill No.5
24. Waste Burial Area
25. Landfill No.6
26. Landfill No.3
27. Landfill No.10
28. Landfill No.1
29. Landfill No.2
30. Landfill No.9
31. Building 1050 Waste Accumulation Area
32. Building 1410 Waste Accumulation Area
33. Building 1420 Waste Accumulation Area
34. Building 1154 Waste Accumulation Area
35. Vehicle Refueling Shop (Building 1144) Oil/Water Separation System
36. Building 1191 Waste Accumulation Area
37. Vehicle Maintenance Shop (Building 1191) Oil/Water Separation System
39. Building 1643 Waste Accumulation Area
40. Building 1643 Oil/Water Separation System
41. Building 1414 Oil/Water Separation System, Field Maintenance Squadron Aerospace Ground Equipment
42. Building 1414 Waste Accumulation Area
44. Building 1027 Oil/Water Separation System at the Aircraft Washing Hangar
45. Building 1027 Waste Oil Tank Vault at the Aircraft Washing Hangar
47. Building 1015 Jet Engine Test Cell Oil/Water Separator
48. Aircraft Washing Area No.1
50. Aircraft Washing Area No.2
51. Building 1192 Central Waste Holding Area
52. Building 1192 Oil/Water Separation System
53. Storm Water Drainage System
54. Storm Water Interceptors
56. Cast Cote Oil/Water Separator
61. Building 1382 Power Production Maintenance Facility Waste Accumulation Area
62. Landfill No.8
64. French Interceptor System
65. Sanitary Sewer System (Rainwater Coverage)
67. Building 1340 Oil/Water Separator
68. POL Tank Farm

N

SCALE IN FEET

HYDRO GeoLogic INC.

Filename: X:\Afc00133\cba-Report analytical sampling.apr
Created by: jbelcher 06/26/99
Revised: 10/05/00 jb
Project: AFC001 33DCRB
Map Source: HydroGeoLogic GIS Database 1999
Jacobs Engineering, 1990




# Figure 3.1

File No. 170-75-1

## Summary of Analytical Sampling July 2000

U S Air Force Center For Environmental Excellence

### Legend

- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- Trichloroethene Plume Boundary set at MCL (5 µg/l) (AFP 4 contours based on April 2000 data)
- *cis*-1,2-Dichloroethene Plume Boundary set at MCL (70 µg/L) (AFP 4 contours based on April 2000 data)
- U0G3047 Semi-Annual Plume Monitoring Wells (January & July)
- U0G3047 Semi-Annual Plume Monitoring Wells (April & October)
- U0G3041 Quarterly Plume Monitoring Wells
- MW-10 AOC 1 Monitoring Wells
- WHGLTA010 AOC 4 Monitoring Wells
- MW-120 AFP 4 Semi-Annual Monitoring Wells
- S114-28 Remedial Action Plan Monitoring Wells
- WTCTA011 Other Wells

Note Dashed contour indicates interpreted plume boundary

Area of Concern (AOC)

1 Former Base Service Station/Former Base Gas Station
2 Airfield Groundwater (Basewide Coverage)
4 Fuel Hydrant System
5 Grounds Maintenance Yard
6 RV Storage Area
7 Former Base Refueling Area
8 Aerospace Museum
9 Golf Course Maintenance Yard
10 O/W Separator
11 O/W Separator
12 O/W Separator
13 O/W Separator
14 Unnamed Stream
15 Storage Shed
16 Family Camp
17 Former Landfill
18 Suspected Former Fire Training Area A
19 Suspected Former Fire Training Area B

Solid Waste Management Unit (SWMU)

5 Building 1806 Waste Accumulation Area
6 Building 1808 Wash Rack and Drain
7 Building 1808 Oil/Water Separator
8 Building 1808 Sludge Collection Tank
11 Building 1817 Waste Accumulation Area
12 Building 1819 Waste Accumulation Area
13 Building 1710 Visual Information Center Work Station Waste Accumulation Areas
16 Building 1060 Waste Accumulation Area
17 Landfill No 7
18 Fire Training Area No.2
20 Waste Fuel Storage Tank
21 Waste Oil Tank
22 Landfill No 4
23 Landfill No.5
24 Waste Burial Area
25 Landfill No.8
26 Landfill No.3
27 Landfill No.10
28 Landfill No.1
29 Landfill No.2
30 Landfill No.6
31 Building 1030 Waste Accumulation Area
32 Building 1410 Waste Accumulation Area
33 Building 1400 Waste Accumulation Area
34 Building 1184 Waste Accumulation Area
35 Vehicle Refueling Shop (Building 1 984) Oil/Water Separation System
36 Building 1191 Waste Accumulation Area
37 Vehicle Maintenance Shop (Building 1191) Oil/Water Separation System
39 Building 1843 Waste Accumulation Area
40 Building 1643 Oil/Water Separation System
41 Building 1414 Oil/Water Separation System, Field Maintenance Squadron Aerospace Ground Equipment
42 Building 1414 Waste Accumulation Area
44 Building 1027 Oil/Water Separation System at the Aircraft Washing Hanger
45 Building 1022 Waste Oil Tank Vault at the Aircraft Washing Hanger
47 Building 1015 Jet Engine Test Cell Oil/Water Separator
48 Aircraft Washing Area No.1
50 Aircraft Washing Area No.2
51 Building 1100 Central Waste Holding Area
52 Building 1150 Oil/Water Separation System
53 Storm Water Drainage System
54 Storm Water Interceptors
56 East Gate Oil/Water Separator
61 Building 1820 Power Production Maintenance Facility Waste Accumulation Area
62 Landfill No.9
64 French Underdrain System
66 Sanitary Sewer System (Basewide Coverage)
67 Building 1340 Oil/Water Separator
68 POL Tank Farm

N

500 0 500 1000
SCALE IN FEET

HYDRO GeoLogic INC.

Filename X:\AF00133dcba\Report\analytical sampling.apr
Created by jbeltcher 06/26/99
Revised 10/05/00 jb
Project AF0301-33DCBB
Map Source HydroGeoLogic GIS Database 1999
Jacobs Engineering, 1996

accumulation of fine material greater than 20 percent of the screened interval, the monitoring well will be considered for redevelopment. During the July 2000 sampling event, no monitoring wells contained an accumulation of fine material greater than 20 percent. Typically, the total depth of monitoring wells with dedicated sampling equipment is measured during the January sampling event. However, since a sampling event was not conducted in January 2000, the total depth of monitoring wells with dedicated sampling equipment was measured only during the July 2000 sampling event for calendar year 2000.

For monitoring wells which recorded PID readings over 100 parts per million or contained free product in the past, an interface probe was used, in accordance with Appendix C of the GSAP (HydroGeoLogic, 2000a), in order to check for free-product (i.e., LNAPL). Field notes documented whether an odor, sheen, or measurable free product (>0.01 feet thickness) was present. If greater than 0.01 feet of free-product was present, it was removed via absorbent pads until no measurable product remained. Free product recovery was not required at any of the monitoring wells sampled during the July 2000 sampling event.

## 3.3 MONITORING WELL/CHEMICAL ANALYSIS SELECTION

Nineteen monitoring wells were scheduled for analytical sampling in July 2000 as described in the GSAP (HydroGeoLogic, 2000a). Two additional monitoring wells, HM-126 and WHGLRW017, were also sampled to provide additional plume delineation. The monitoring wells selected for analytical sampling were further divided based on whether the monitoring wells were selected primarily to evaluate plume characteristics, the potential for off-site migration, or to collect natural attenuation data. The reason for selection of the monitoring well dictated the chemical parameters selected for analysis at each monitoring well. Table 3.1 includes a list of the TCE plume monitoring wells sampled during the July 2000 sampling event and the chemical parameters selected for analysis at each monitoring well.

Components considered in developing the sampling approach included monitoring well location relative to an area/source of contamination, type of contamination suspected and/or detected, and specified monitoring requirements resulting from ongoing or previous investigations. The analysis proposed for a selected monitoring well reflects the monitoring objective(s) that it supports. For example, when a selected monitoring well supports both the plume delineation objective as well as the natural attenuation objective, the list of analytical tests reflects the analysis needed to fulfill both objectives (i.e., volatile organic compounds [VOCs] and natural attenuation parameters). There was no sampling for natural attenuation parameters conducted during the July 2000 sampling event. Natural attenuation parameters are sampled on a semi-annual basis in April and October 2000.

### 3.3.1 Critical Groundwater Exposure Pathways

Several monitoring wells located near the base boundaries, and/or immediately upgradient of surface water bodies where groundwater discharges to surface water, were selected to monitor potential for off-site migration. The selected monitoring wells are ITMW-01T, USGS07T,

**Table 3.1**
**TCE Plume Monitoring Wells Selected for July 2000 Basewide Sampling**

| Well | Sample Parameters[1] | |
|---|---|---|
| | VOCs | Metals |
| GMI-22-06M | X | |
| GMI-22-07M | X | |
| HM-123 | X | |
| HM-126 | X | |
| ITMW-01T | X | X |
| LF03-3D | X | |
| LF05-01 | X | |
| LF05-5G | X | |
| MW-53 | X | |
| SPOT35-5 | X | |
| USGS07T | X | X |
| W-153 | X | |
| WHGLTA011 | X | |
| WHGLRW015 | X | |
| WHGLRW017 | X | |
| WHGLTA025 | X | |
| WITCTA004 | X | |
| WITCTA010 | X | |
| WITCTA017 | X | X |
| WITCTA024 | X | |
| WJETA535 | X | X |

Notes:
[1] Samples from all wells were also tested for the following standard field parameters: temperature, pH, specific conductance, dissolved oxygen (DO), oxidation-reduction potential (Eh), and turbidity.

VOCs - Volatile organic compounds (EPA Method SW8260B)
Metals - Total metals plus mercury (EPA Methods SW6010B/SW7471A)

WITCTA017, and WJETA535. These perimeter monitoring wells are sampled for VOCs by EPA Method SW8260B and total metals plus mercury by EPA Methods SW6010B/SW7470A.

### 3.3.2 Additional Source and Plume Delineation

A total of 21 existing monitoring wells located within and around the TCE plume were selected to provide additional source and plume delineation. These monitoring wells were selected to provide continued plume detail in areas which have been evaluated in the past. Monitoring wells selected for plume delineation were analyzed for VOCs using EPA Method SW8260B.

### 3.3.3 Current Regulatory Requirements

Three additional monitoring wells were sampled as part of an ongoing RCRA Facility Investigation (RFI) for Landfill 7. The three monitoring wells sampled for Landfill 7 were WHGLTA704, WHGLTA705, and WHGLTA706. These monitoring wells were sampled for VOCs by EPA Method SW8260B. The analytical results from the Landfill 7 Investigation will be discussed in a separate RFI report.

## 3.4 MONITORING WELL PURGING AND ANALYTICAL SAMPLING

The 21 monitoring wells were sampled utilizing a low-flow purge technique, the procedure recommended for AFCEE projects (AFCEE, 1996). Detailed sampling protocol is included in Appendix C of the GSAP (HydroGeoLogic, 2000a).

### 3.4.1 Purging Procedures

Dedicated MicroPurge® Well Wizard® bladder pumps were used to purge and sample 19 of the 21 monitoring wells designated as TCE plume monitoring wells on Table 3.1. A non-dedicated stainless steel bladder pump was used on the remaining two monitoring wells, HM-126 and WHGLRW017. The bladder pump is ideal for low-flow purging and can sustain pumping rates between 0.1 to 0.5 liter/minute minimizing turbidity, oxygenation, mixing of chemically distinct zones, and potential loss of VOCs. Continuity of the groundwater sampling is achieved in the majority of the sampling through using the same dedicated equipment each event and minimizing the disturbance to the water column. With non-dedicated equipment, pumps that are lowered into the monitoring well will cause some mixing of the stagnant and dynamic water zones, and resuspension of solids that have settled in the monitoring well. The dedicated pump system requires no equipment blanks or equipment decontamination.

During all purging, water quality stabilization criteria (pH, temperature, dissolved oxygen [DO], oxidation-reduction potential [Eh], turbidity, and electrical conductance [EC]) were continuously monitored using a flow-thru cell. The measurements were recorded on groundwater field sampling data sheets (Appendix A.3). The criteria for sample collection was the stabilization of water quality parameters as follows:

- Temperature: +/- 1 °C
- pH: +/- 0.1 units
- EC: +/- 3% full scale range
- DO: +/- 0.10 milligrams per liter or 10% of value (whichever is greater)
- Eh: +/- 10 mV
- Turbidity: +/- 10% and less than 10 Nephelometric turbidity units whenever possible

### 3.4.2 Sampling Procedures

A monitoring well was sampled when the water quality stabilization criteria were met. If the parameters did not stabilize, the sample was collected when a minimum subset of the above parameters stabilized as described in Appendix C of the GSAP (HydroGeoLogic, 2000a).

Samples for VOC analysis were collected first at each monitoring well, followed by the samples for metals analysis, when applicable. Required sample containers, preservation methods, volumes, and holding times are provided in Section 5.0 of the QAPP (HydroGeoLogic, 2000b).

## 3.5 INVESTIGATION-DERIVED WASTE MANAGEMENT

IDW management procedures were followed as outlined in Section C.9.2 of the Final GSAP (HydroGeoLogic, 2000a). All purge and decontamination water was stored in the poly farm tank at the recreational vehicle storage area. Disposal of the purge water and decontamination water was conducted in September following the receipt of analytical results.

## 3.6 LABORATORY AND FIELD ANALYSIS

The methods selected for the chemical analyses for the July 2000 sampling event are listed on Table 3.1. All samples were delivered by overnight courier to Severn Trent Laboratory in Chicago, Illinois. Each sample was submitted for analysis of the constituents outlined in Table 3.1, and analyzed according to the specifications in the QAPP (HydroGeoLogic, 2000b).

# TAB

Section 4.0

# 4.0 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

This section describes the analytical methods and QC program utilized for the basewide quarterly monitoring events at NAS Fort Worth JRB and provides a data quality evaluation (DQE) of the July 2000 quarterly groundwater sampling event. The analytical methods used for the collection of data are described in the QAPP (HydroGeoLogic, 2000b).

## 4.1 FIELD QUALITY CONTROL

The field QC program for the collection of samples at NAS Fort Worth JRB included specific procedures for the collection of groundwater samples as described in the Final Basewide GSAP (HydroGeoLogic, 2000a). Sample bottles met EPA requirements for environmentally clean containers. Sample labels were pre-printed to facilitate sample tracking from the field through the laboratory to the final report. Documentation of sample collection is performed in the field to ensure that sample labeling, COC, and field sampling reports are in agreement and traceable back to the correct field sample. Custody seals were placed on each cooler before shipment by a common carrier.

Field QC samples were collected to evaluate sampling technique and decontamination procedures. The samples including ambient blanks, equipment blanks, trip blanks, and field duplicates are described below. A summary of the QC samples, including the number of each type collected as part of the July 2000 sampling event, are included in Table 4.1.

### 4.1.1 Ambient Blanks

Ambient blanks consist of American Society for Testing and Materials (ASTM) Type II reagent grade water poured into a VOC sample vial at a sampling site (in the same vicinity as the associated samples). Ambient blanks are used to assess the potential introduction of contaminants from ambient sources (e.g., active runways, engine test cells, gasoline motors in operation) to the samples during sample collection. Project ambient blanks were handled like environmental samples and transported to the laboratory for analysis.

One ambient blank was collected during the July 2000 quarterly sampling event to account for potential interferences due to gasoline motors in operation in a high traffic area. No ambient contaminants were detected in the sample.

### 4.1.2 Equipment Blanks

An equipment blank is a sample of ASTM Type II reagent grade water poured into, poured over, or pumped through a sampling device, collected in a sample container, and transported to the laboratory for analysis. Equipment blanks are used to assess the effectiveness of equipment decontamination procedures. On days where only dedicated or disposable equipment is used, equipment blanks are not required as there is no potential for cross-contamination between sampling locations. During the July 2000 sampling event, two equipment blanks were

**Table 4.1**
**Field Quality Control Samples**
**Collected for July 2000 Basewide Sampling**

| Type of Sample | Purpose | Frequency | Total Number | Time | Analysis |
|---|---|---|---|---|---|
| Ambient Blank | Used to assess the impact of ambient conditions | 1 ambient blank/sampling event | 1 | During normal sample collection conditions | VOCs |
| Equipment Blank | Used to assess the effectiveness of equipment decontamination procedures | 1 equipment blank/day that equipment is decontaminated | 2 | Immediately after equipment had been decontaminated | All laboratory analyses consistent with daily sampling |
| Trip Blank | Used to assess the potential contaminants from sample containers or other foreign sources during sample transportation and storage. | 1 trip blank/ sample cooler | 6 | When VOC samples were collected | VOCs |
| Field Duplicate (blind) | Used to assess sample collection procedures, sample preparation, and improper analytical instrument use. | 1 duplicate/10 environmental samples | 2 | Collected at the same time and location of original sample | Same as original sample |

Notes:
VOCs - Volatile organic compounds (EPA Method SW8260B)

collected. One equipment blank was collected for each type of sample equipment used on each day that equipment decontamination activities occurred. Equipment blanks were collected immediately after the equipment was decontaminated. Each equipment blank was analyzed for all laboratory analyses requested for the environmental samples collected at any associated site on that day. Equipment blanks are only associated with samples HM-126 and WHGLRW017, as dedicated equipment was not used at those monitoring wells. No analyte detections were qualified as artifacts due to equipment blank contamination.

### 4.1.3 Trip Blanks

Trip blanks consist of VOC sample vials filled in the laboratory with ASTM Type II reagent grade water, transported to the sampling site, handled as environmental samples, and returned to the laboratory for analysis. Trip blanks are not opened in the field and are submitted only when VOC, benzene, toluene, ethylbenzene, and xylenes, or dissolved gases samples are collected for analysis. Trip blanks are used to assess the potential introduction of contaminants

from sample containers, and during sample transportation and storage. For the July 2000 sampling event, a set of trip blanks was included in each sample cooler containing samples requiring VOCs or dissolved gases analysis.

A total of six trip blanks are associated with the July 2000 sampling event. Two methylene chloride detections were qualified "U" as artifacts due to trip blank contamination.

### 4.1.4 Field Duplicates

A field duplicate is a second sample collected in the same location as a field sample ("parent" sample). Duplicate samples are collected simultaneously, or in immediate succession, to collection of parent sample, using identical recovery techniques. The parent and duplicate are treated in an identical manner during transportation, storage, preparation, and analysis. Two field duplicates are associated with the July 2000 sampling event. Any data qualification required by duplicates not meeting the precision criteria for the July 2000 event are discussed in Section 4.5 of this report.

## 4.2 SAMPLE TRACKING PROTOCOL

Each field sample was assigned a unique identification number that described where the sample was collected. The number consists of a maximum 12-digit alphanumeric code as follows:

xxxxxxxxxzzaa

where:

| | |
|---|---|
| xxxxxxxxx | represents the well identification or well name (e.g., LF03-3D, WHGLTA025), also referred to as the LOCID |
| zz | represents the medium (WG for water-ground) |
| aa | indicates the sampling event number for groundwater, surface water, and soil (e.g., 01, 02, 03, etc.) |

For example, the groundwater sample collected during the twelfth sampling event from LF03-3D would be identified as "LF03-3DWG12."

In order to ensure that field duplicates were analyzed 'blind' by the laboratory, each field duplicate sample was assigned a unique sample identification number that did not associate the duplicate with its parent sample. The locations from which field duplicate samples were to be collected were determined prior to mobilization. Documentation was maintained in the field sampling log book, and on the sample collection log, to track these field duplicate samples. For example, a blind duplicate sample would be identified as "DUP01."
QC samples were identified by use of a similar system of identifiers with a maximum of 10 characters. The QC sampling number system is summarized below:

xxyyyyyy

where:

xx represents the medium (EB for equipment blank, TB for trip blank, AB for ambient blank)

yyyyyy represents the date (month, day, year)

For example, an equipment blank obtained on July 12, 2000, would be identified as EB071200.

The Project Geologist/Field Coordinator maintained a list detailing the connection between each QC sample and specific environmental samples. For instance, each trip blank was correlated with a particular set of volatile samples shipped to the laboratory in the same cooler, and each equipment blank was correlated to those samples collected on a specific date using nondedicated sampling equipment.

After the laboratory data were received and validated, data entry and QC operations were performed on the laboratory's electronic data deliverables (EDDs) to ensure that each EDD was complete, correct, and compliant with the Environmental Resources Program Information Management System (ERPIMS) format. An EDD report in the ERPIMS format will be provided.

For the purpose of this report, samples will be referred to by their LOCIDs and will not contain the suffix "WG12". The suffix of "DL" is applied to indicate a sample result reported from a diluted analysis, and the suffix "RE" indicates a sample result reported from a reanalysis.

## 4.3 LABORATORY QUALITY CONTROL

The laboratory QC program, including sample handling, laboratory QC elements, and data reporting, is fully documented in the QAPP (HydroGeoLogic, 2000b). Sample handling includes documentation of sample receipt, placement in storage, controlled sample access, and disposal. Laboratory QC elements consist of instrument calibration and maintenance, laboratory control samples (LCSs), method blanks, matrix spike/matrix spike duplicate (MS/MSD) samples, and method-specific QC checks. Reporting of the laboratory control data was planned prior to the collection of the data, allowing the laboratory to place the appropriate information into each data package so that the DQE could be performed in a timely manner.

## 4.4 QUALITY CONTROL ELEMENTS

The basis for assessing each element of data quality (precision, accuracy, representativeness, completeness, and comparability) is discussed in the following subsections.

### 4.4.1 Precision

Precision measures the reproducibility of measurements. It is strictly defined as the degree of mutual agreement among independent measurements as the result of repeated application of the same process under similar conditions. Analytical precision is the measurement of the variability associated with duplicate (two) or replicate (more than two) analyses. Total precision is the measurement of the variability associated with the entire sampling and analysis process, and is determined by analysis of duplicate or replicate field samples and measures variability introduced by both the laboratory and field operations. Field duplicate samples and MSD samples were analyzed to assess field and analytical precision, and the precision measurement was determined using the relative percent difference between the duplicate sample results. For replicate analyses, the relative standard deviation was determined. Acceptable values for precision for each analyte are listed by analysis method in the QAPP (HydroGeoLogic, 2000b).

### 4.4.2 Accuracy

Accuracy is a statistical measurement of correctness and includes components of random error (variability due to imprecision) and system error. It therefore reflects the total error associated with a measurement. A measurement was accurate when the value reported did not differ from the true value or known concentration of the spike or standard. Analytical accuracy was measured by comparing the percent recovery (%R) of analytes spiked into an LCS to a control limit. For most organic analytical methods, surrogate compound recoveries were also used to assess accuracy and method performance for each sample analyzed. Analysis of performance evaluation (PE) samples were also used to provide additional information for assessing the accuracy of the analytical data being produced.

Both accuracy and precision were calculated for each AFCEE analytical batch, and the associated sample results were interpreted by considering these specific measurements. The formula for calculation of accuracy is %R from pure and sample matrices. Acceptable values for %R for each analyte are listed by analytical method in the QAPP (HydroGeoLogic, 2000b). Accuracy and precision for the July 2000 sampling event are discussed in Section 4.5 of this report.

### 4.4.3 Representativeness

Objectives for representativeness were defined for each sampling and analysis task and were a function of the investigative objectives. Representativeness was achieved through use of the standard field, sampling, and analytical procedures. Representativeness was also determined by appropriate program design with consideration of elements such as proper sampling locations.

The same analytical methods are maintained from quarter to quarter (with the two exceptions cited in Section 4.4.5 below). The dedicated bladder pumps help to ensure representative samples are collected each sampling round.

### 4.4.4 Completeness

Completeness was calculated for the aggregation of data for each analyte measured for any particular sampling event or other defined set of samples. The number of valid results divided by the number of possible individual analyte results, expressed as a percentage, determines the completeness of the data set. In evaluating sampling event completeness, valid results were all results not qualified with an "R" qualifier (see Table 4.2 for an explanation of qualifiers used). The project requirement for completeness is 95 percent for aqueous samples. For any instances of samples that could not be analyzed for any reason (holding time violations in which resampling and analysis were not possible, samples spilled or broken, etc.), the numerator of this calculation becomes the number of valid results minus the number of possible results not reported.

The formula for calculation of completeness follows:

$$\%\ \text{completeness} = \frac{\text{number of valid (i.e., non} - \text{R qualified) results}}{\text{number of possible results}} \times 100$$

The July 2000 sampling event generated a total of 1,522 data points (from environmental samples and field duplicates); 1,492 of these data points were considered usable. Note: two samples had original results rejected. In both cases, the sample was reanalyzed under a secondary dilution and the original result has been replaced with a non-rejected, non-detection result with an elevated reporting limit. Overall project completeness was calculated to be 98.0%, which meets project completeness requirements. Completeness calculated on a per-analyte basis is evaluated in the discussion of individual analytical method subsections in Section 4.5. All rejected and missing data points are summarized in Table 4.3.

### 4.4.5 Comparability

Comparability is the confidence with which one data set can be compared to another data set. The objective for this QC program is to produce data with the greatest possible degree of comparability. The number of matrices that are sampled and the range of field conditions encountered are considered in determining comparability. Comparability is achieved by using standard methods for sampling and analysis, reporting data in standard units, normalizing results to standard conditions and using standard and comprehensive reporting formats. Complete field documentation using standardized data collection forms supports the assessment of comparability.

## Table 4.2
## Data Qualifiers

| Qualifiers[1] | Positive Results | Negative Results |
|---|---|---|
| ***Qualifiers for Data Within Acceptance Limits (Usable as Reported)*** | | |
| (no qualifier) | The result is a detection with the indicated value and units. (Use datum without qualification) | (Not applicable) |
| U | (Not applicable) | The analyte was analyzed for, but not detected. The associated numerical value is at the PQL. (Use datum without qualification.) |
| ***Qualifier for Data Within Action Limits (Usable with Qualification)*** | | |
| F | The analyte was positively identified, but the associated numerical value is below the PQL. | (Not applicable) |
| J | The analyte was positively identified, the quantitation is an estimation | (Not applicable) |
| UJ | (Not applicable) | The analyte was not detected, the associated numerical value is a PQL which is estimated due to deficiencies in the QC data. |
| ***Qualifiers for Data Outside of Action Limits (Unusable)*** | | |
| R | The datum is unusable due to serious deficiencies in the ability to meet QC criteria. | The datum is unusable due to serious deficiencies in the ability to meet QC criteria. |

Notes:

[1] If a combination of QC results suggest contradictory qualifiers, the following hierarchy is used to select the appropriate qualifier to assign:

R > UJ > U > F > J > (no qualifier)

PQL - Practical quantitation limit
QC - Quality control

# Table 4.3
## Data Quality Evaluation and Result Rejection Summary

| Monitoring Well | Bromomethane | Carbon Tetrachloride | 1-Chlorohexane | Dichlorodifluoromethane | 1,1-Dichloroethene | *trans*-1,2-Dichloroethene | 2,2-Dichloropropane | Hexachlorobutadiene | Methyl *tert*-Butyl Ether | Methylene Chloride | Naphthalene | 1,2,3-Trichlorobenzene | 1,2,4-Trichlorobenzene | 1,2,4-Trimethylbenzene | Trichlorofluoromethane | 1,3,5-Trimethylbenzene |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DUP01 | | | CC | LCS | | | | | | | | | | CC | | |
| DUP02 | | | | | | | | | | | | | | | | LCS* |
| GMI-22-06M | CC | CC | | CC | | | | | | | | | | | CC | |
| GMI-22-07M | | | | | | | | CC | | | | | | | | CC |
| LF05-5G | | | | | | | | | | | | | | | | LCS* |
| SPOT35-5 | | | | | LCS | LCS | | | | LCS | | | | | | |
| W-153 | CC | | | LCS | | | CC | | CC | | | | | | | |
| WHGLRW015 | | | | | | | | CC | | | | | | | | CC |
| WHGLRW017 | | | CC | LCS | | | | | | | | | | CC | | |
| WHGLTA025 | | | | | | | | CC | | | | | | | | CC |
| WITCTA004 | | | | | | | | | | LCS | | | | | | |
| WITCTA010 | | | | | LCS | | | CC | | | CC | CC | CC | | | |
| WJETA535 | | | | | | | | | | | | | | | | LCS |
| Total Analyses | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| Rejected Analyses | 2 | 1 | 2 | 4 | 2 | 1 | 1 | 4 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 4 (+2) |
| Percent Complete | 91.3 | 95 7 | 91.3 | 82 6 | 91 3 | 95 7 | 95 7 | 82.6 | 95 7 | 91 3 | 95.7 | 95 7 | 95 7 | 91.3 | 95 7 | 82 6 |

Notes:

LCS The designated sample result was rejected because of a low laboratory control sample recovery (%R).

CC The designated sample result was rejected because of high continuing-calibration verification values (%D).

* The designated sample result was rejected in the original analysis. The sample was reanalyzed under a secondary dilution and the original result has been replaced with a non-rejected non-detection with an elevated RL.

Analyses of PE samples and reports from audits are used to provide additional information for assessing the comparability of analytical data produced among subcontracting laboratories. Historical comparability is achieved through consistent use of methods and documentation procedures throughout the project. Analytical methods have remained the same since the beginning of the Groundwater Sampling Program, with the exceptions of dissolved gases and petroleum hydrocarbons.

## 4.5 DATA QUALITY EVALUATION

This section describes the analytical methods and quality control program utilized for the July 2000 basewide groundwater sampling event at NAS Fort Worth JRB. The analytical methods used for the analysis of the field samples are described in the QAPP (HydroGeoLogic, 2000b).

The objective of the DQE is to provide a professional review of the analytical data packages submitted by the laboratory. The DQE consists of laboratory QC data and field QC data review, to indicate which data are usable, usable with qualification, or unusable. The analytical procedures used to generate field sample data are evaluated in accordance with the general and method specific QC criteria listed in Sections 5.0, 6.0, 7.0, and 8.0 of the QAPP (HydroGeoLogic, 2000b). The DQE for each analytical procedure (or set of procedures) is presented in the subsections below. Each subsection summarizes those results which have been found to be unusable, and those results which are usable with qualification.

Some analytes will have more than one qualifier assigned due to multiple QC issues with that result. In such cases, the qualifier with the highest priority is assigned; the other qualifiers are considered to be overridden and are not discussed in the method DQE. The exceptions to this are those detections that are considered field or laboratory artifacts. These results have a "U" qualifier applied prior to any other qualification; subsequent qualification is applied to the affected results as if they were non-detections.

Note that some samples have more than one analysis, due to reanalysis for dilution or QC issues. Where multiple analyses are available for a sample, the DQE discusses only QC issues affecting the definitive result for each analyte in that sample. The definitive result is determined by evaluating the hierarchy of data qualifiers (with the lower priority qualifier indicating a "better" result), practical quantitation limits (PQLs), and calibrated range.

The following items of laboratory QC data are reviewed:

- Sample integrity
- Sample completeness
- Preparation and analysis holding times
- Laboratory preparation and analysis methods
- Method accuracy and precision (e.g., MS/MSDs, dilution tests)

- Laboratory performance criteria (e.g., blanks, LCS recoveries, surrogates, internal standards)
- Instrument initial and continuing calibration checks

Field QC performance is evaluated through evaluating field duplicates, field blanks, field documentation, and shipping criteria.

### 4.5.1 Volatile Organic Compounds

A total of 21 groundwater samples, 2 duplicate samples, and 9 field QC samples were analyzed for VOCs by method SW8260B. Of the 1,426 VOC results generated by environmental samples and duplicate samples, 30 were rejected. Overall completeness of the VOC results was calculated to be 97.9%; however, rejected data caused eight individual analytes, bromomethane (91.3%), 1-chlorohexane (91.3%), dichlorodifluoromethane (82.6%), 1,1-dichloroethene (91.3%), hexachlorobutadiene (82.6%), methylene chloride (91.3%), 1,3,5-trimethylbenzene (82.6%), and 1,2,4-trimethylbenzene (91.3%), to fail to meet the 95% completeness goal. The results for carbon tetrachloride, *trans*-1,2-dichloroethene (*trans*-1,2-DCE), 2,2-dichloropropane, methyl *tert*-butyl ether (MTBE), naphthalene, 1,2,4-trichlorobenzene, trichlorofluoromethane, and 1,2,3-trichlorobenzene each had a completeness of 95.7%, and the results for the other 46 SW8260B VOC compounds had a completeness of 100%. All data rejections in VOC results were either due to unacceptably high percent difference (%D) values associated with the continuing calibration verifications or were due to low %R in associated LCS samples. Those rejected data are presented for each sample and each affected analyte in Table 4.3.

The remaining data results are usable with qualification as described below.

The following detections have been qualified "J" due to a high %R in the associated LCSs: vinyl chloride in samples LF05-5G and DUP02; 1,1-dichloroethene in sample W-153; and 1,1-dichloroethene and *trans*-1,2-DCE in sample WITCTA004.

1,1-Dichloroethene detections have been qualified "J" in samples LF05-5G and DUP02 due to poor precision in this field duplicate pair.

Due to contamination in the associated trip blanks, methylene chloride detections have been qualified "U" in samples GMI-22-06M and HM-126.

Detected values for specific analytes have been qualified "F" in several samples due to results between the method detection limit (MDL) and PQL.

### 4.5.2 Metals

A total of four groundwater samples were analyzed for metals. The analyses were performed by a combination of method SW6010B and the analyte-specific methods of the SW7000A

series. All 96 metals results were found to be usable and overall completeness of the metals results is 100%, as is the completeness for each of the 24 individual analytes.

The following data results are usable with qualification as described below.

Preparation blanks, initial calibration blanks, and continuing calibration blanks exhibited occasional metals contamination. This blank contamination resulted in the following qualifications of detections as laboratory artifacts:

> Aluminum, molybdenum, and vanadium have been qualified "U" in sample WJETA535.
>
> Aluminum, manganese, and selenium have been qualified "U" in sample WITCTA017.
>
> Vanadium has been qualified "U" in sample USGS07T.

Preparation blanks, initial calibration blanks, and continuing calibration blanks exhibited occasional negative baseline drift for specific metals. This baseline drift resulted in the following qualifications of non-detections:

> Aluminum, arsenic, beryllium, cadmium, lead, and nickel have been qualified "UJ" in sample WJETA535.
>
> Aluminum, arsenic, beryllium, cadmium, and nickel have been qualified "UJ" in samples WITCTA017 and ITMW-01T.
>
> Arsenic, beryllium, cadmium, and nickel have been qualified "UJ" in sample USGS07T.

The ICP serial dilution test performed on sample USGS07T had an unacceptable result for aluminum. The aluminum detection in sample USGS07T has been qualified "J"; the aluminum non-detections in samples WITCTA017 and ITMW-01T have been qualified "UJ."

Graphite furnace atomic absorption spike recovery results were out of control for specific elements in several samples. This caused the following results to be qualified as described below:

> Antimony, chromium, and thallium non-detections were qualified "UJ" in sample WJETA535.
>
> Selenium and thallium non-detections were qualified "UJ" in sample WITCTA017.
>
> Antimony, lead, and thallium non-detections were qualified "UJ" in sample USGS07T.

Antimony, selenium, and thallium non-detections have been qualified "UJ" in sample ITMW-01T.

Detected values for specific analytes have been qualified "F" in several samples due to results between the MDL and PQL.

# TAB

Section 5.0

# 5.0 FIELD AND ANALYTICAL RESULTS

Monitoring well inspection observations, water level measurements, and field and laboratory analytical results for the July 2000 basewide quarterly sampling event are presented in this section.

## 5.1 FIELD RESULTS

### 5.1.1 Monitoring Well Inspections

Of the 285 monitoring wells scheduled for inspection, only 279 were actually inspected during the July 2000 quarterly sampling event. The locations of these monitoring wells are provided in Figure 5.1. Of the six monitoring wells that were not inspected, one monitoring well, WITCTA001, was paved over with asphalt; four of the monitoring wells (MW-13, MW-18, MW-58, and MW-59) have been covered over with a concrete pad and an above-ground diesel fuel tank; and one monitoring well, LF04-04, could not be located in the debris of a demolished house and is assumed to be destroyed.

### 5.1.2 Groundwater Elevations

Groundwater elevations were obtained during the July 2000 sampling event for 273 monitoring wells selected for water level measurements and are included in Table 5.1. The groundwater elevations could not be determined for 6 of the 279 monitoring wells for the following reasons: two monitoring wells could not be located; three did not contain any water at the time of gauging; and one monitoring well contained a dedicated bladder pump installed by Jacob's Engineering. These six monitoring wells are listed on Table 5.2, along with the monitoring wells that were not able to be inspected and the monitoring wells that have been abandoned.

Groundwater elevations measured during the July 2000 sampling event from 273 monitoring wells screened in the Terrace Alluvium were used to construct the potentiometric maps presented in Figure 5.1. In general, the regional groundwater flow direction is from west to east. Groundwater elevation varied from 620 feet above NGVD in the southwestern portion of the site to 529 feet NGVD in the eastern portion of the site during July 2000. The head gradients toward the eastern end of the site are considerably higher than those on the western portion. The groundwater gradient ranges from approximately 0.009 to 0.015 feet.

Some local variations in groundwater flow direction are reflected on the potentiometric maps. The groundwater flow direction in the Terrace Aquifer is primarily eastward towards the basin formed by the West Fork Trinity River, however, in the Landfill Area and the southern portion of the East area, groundwater flow is towards Farmers Branch Creek.

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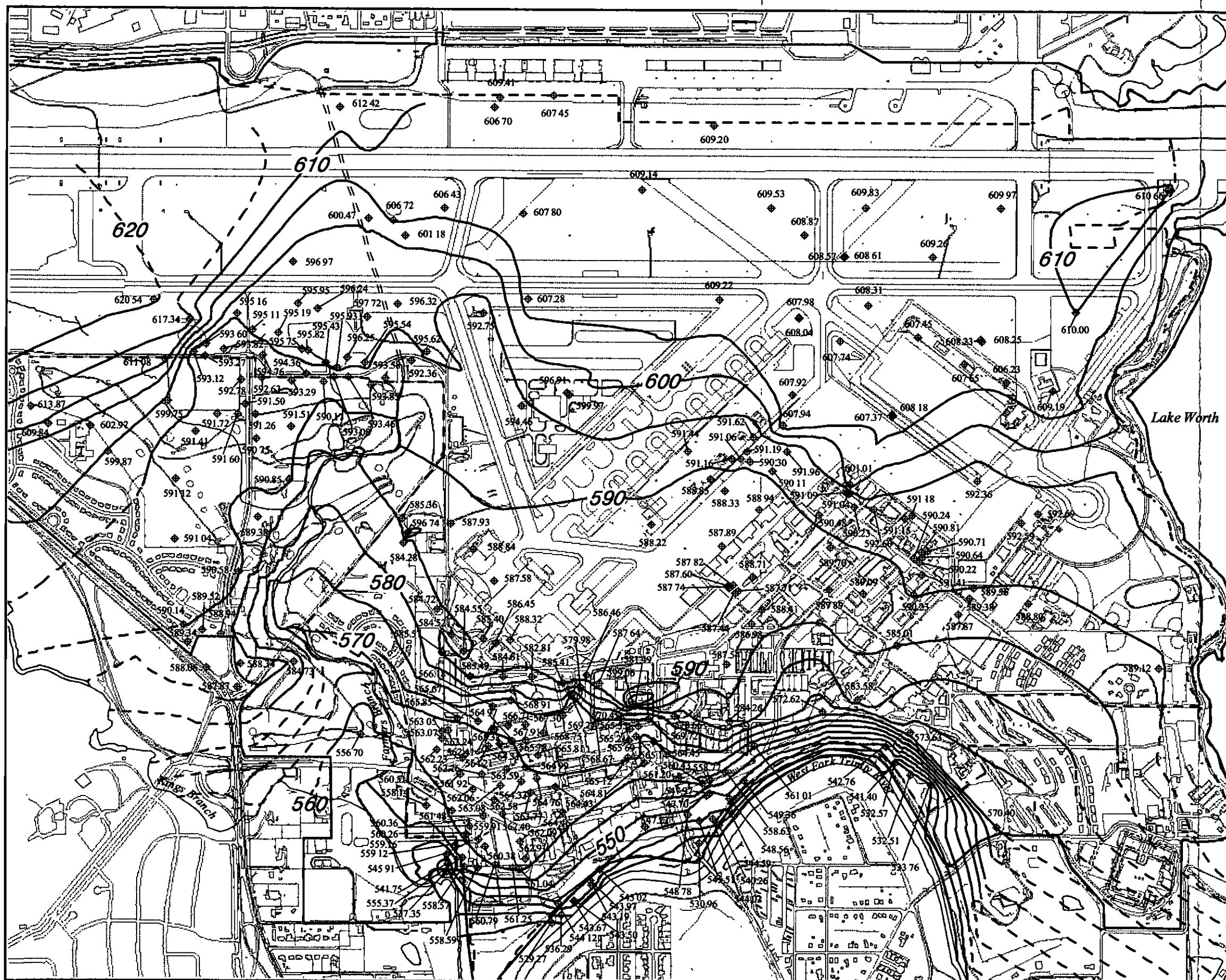


*HydroGeoLogic, Inc.—July 2000 Quarterly Report*
*NAS Fort Worth JRB, Texas*

**Figure 5.1**

**Water Level Elevations**
**Terrace Alluvium**
**July 2000**

U.S. Air Force Center For Environmental Excellence

**Legend**

- - - - NAS Fort Worth JRB (Carswell Field)

——— Former Carswell Air Force Base

—600— Groundwater Elevation Contour (ft msl)

◆ Monitoring Well

533 76 Groundwater Elevation (ft msl)

N

0 500 1000 2000

SCALE IN FEET

*Filename. X:\AFC001\33dcba\Report\(fig 5-01) groundwater elev july2000.apr*
*Project AFC001-33DCBA*
*Created 01/22/00 jbelcher*
*Revised 10/04/00 jb*
*Map Source. HydroGeoLogic, Inc GIS Database*

HYDRO GeoLogic

**Table 5.1**
**Groundwater Elevations for July 2000**

| Monitoring Well | Coordinates | | Top of Casing Elevation (ft above msl) | Groundwater Elevation (ft above msl) |
|---|---|---|---|---|
| | Easting | Northing | | |
| 15B | 2301032.08 | 6963338 74 | 567.59 | 558.57 |
| 17I | 2299626.67 | 6963642.66 | 578.13 | 565.32 |
| 17J | 2299584.43 | 6963780.05 | 579.94 | 566.71 |
| 17K | 2299799.21 | 6963578.34 | 575.47 | 564.21 |
| 17L | 2299741.17 | 6963812.74 | 577 32 | 564.97 |
| 17M | 2300037 62 | 6963761.95 | 574.28 | 563 59 |
| BGSMW01 | 2299511 | 6964916.44 | 578 64 | 570.45 |
| BGSMW02 | 2299618.19 | 6965006.79 | 577.57 | 565 21 |
| BGSMW03 | 2299690.06 | 6965067.5 | 576.72 | 565.14 |
| BGSMW04 | 2299589.5 | 6965084 53 | 578.49 | 565.55 |
| BGSMW05 | 2299961.23 | 6965150.67 | 571.66 | 564.81 |
| BGSMW06 | 2299910.09 | 6964981 31 | 576.51 | 565.12 |
| BGSMW07 | 2299737.83 | 6964990.68 | 574.88 | 565.69 |
| BSS-A | 2300115.43 | 6965491.1 | 566.49 | 561.20 |
| BLDG1040-1 | 2298699.62 | 6963528.01 | 604.27 | 585.40 |
| CAR-RW7 | 2296407.22 | 6961213.98 | 618.96 | 591 26 |
| FT08-11A | 2295876.4 | 6962318.1 | 608.15 | 595 54 |
| FT08-11B | 2295928.5 | 6962030.9 | 608 05 | 595.93 |
| FT09-12A | 2295439.2 | 6960549.8 | 635.38 | 617.34 |
| FT09-12B | 2295697.4 | 6960709.3 | 627.36 | 593.60 |
| FT09-12C | 2295771.5 | 6960590.3 | 627 86 | 593.12 |
| FT09-12D | 2295743.4 | 6960887 6 | 627.26 | 593 82 |
| FT09-12E | 2295821.2 | 6960701.1 | 627 34 | 593.27 |
| GMI-04-01M | 2296724.6 | 6960930.7 | 613.79 | --[1] |
| GMI-22-02M | 2296187.4 | 6966632.9 | 619.13 | 607.92 |
| GMI-22-03M | 2298539.4 | 6966219.9 | 608 03 | 586.98 |
| GMI-22-04M | 2297340.5 | 6967250.5 | 610.70 | 590.23 |
| GMI-22-05M | 2299432.1 | 6966940.3 | 584.28 | 572.62 |
| GMI-22-06M | 2298186.6 | 6967004.5 | 606.84 | 587.89 |
| GMI-22-07M | 2298322.5 | 6969018.7 | 605.66 | 588.80 |
| GMI-22-08M | 2298971.5 | 6970323.6 | 606.94 | 589.12 |
| HM-110 | 2293163.2 | 6963667.5 | 637.33 | 609.41 |
| HM-111 | 2293265 66 | 6963623.55 | 636.49 | 606.70 |
| HM-112 | 2293141.65 | 6964217.56 | 638.06 | 607.45 |
| HM-114 | 2294352 | 6963912.1 | 627.77 | 607.80 |
| HM-116 | 2294283.7 | 6966411.4 | 634.06 | 609.53 |
| HM-117 | 2294274.3 | 6967355.4 | 633.32 | 609.83 |

**Table 5.1 (continued)**
**Groundwater Elevations for July 2000**

| Monitoring Well | Coordinates | | Top of Casing Elevation (ft above msl) | Groundwater Elevation (ft above msl) |
|---|---|---|---|---|
| | Easting | Northing | | |
| HM-118 | 2294780.5 | 6968035.2 | 626.23 | 609.26 |
| HM-119 | 2294271.8 | 6968726 | 625.04 | 609.97 |
| HM-120 | 2295343.2 | 6969489 | 616.84 | 610.00 |
| HM-121 | 2295279 2 | 6967390.2 | 627.66 | 608.31 |
| HM-123 | 2295272.6 | 6961638.5 | 624.85 | 595.95 |
| HM-124 | 2295223.3 | 6963957.8 | 623.26 | 607.28 |
| HM-125 | 2295220 29 | 6965893.46 | 629.37 | 609 22 |
| HM-126 | 2294300.2 | 6963121 | 622.99 | 606.43 |
| HM-127 | 2294853.3 | 6961588.5 | 624 04 | 596 97 |
| ITMW-01T | 2298967.14 | 6961062.05 | 602.77 | 588.34 |
| LF01-1B | 2301057.01 | 6964700.81 | 560.18 | 545.02 |
| LF01-1D | 2301412.72 | 6964288.18 | 563.91 | 544.12 |
| LF01-1E | 2301174.3 | 6964606 03 | 562.11 | 543.97 |
| LF01-1F | 2301376.05 | 6964438.04 | 562.26 | 543.67 |
| LF03-3D | 2293269.12 | 6962056.65 | 625.25 | 612 42 |
| LF04-01 | 2295382.89 | 6961027.72 | 629.16 | 595.16 |
| LF04-02 | 2296309.1 | 6961113.1 | 623.44 | 591 50 |
| LF04-04 | 2297165.6 | 6960941.6 | 611.95 | --[2] |
| LF04-10 | 2297078.9 | 6960411.8 | 626.47 | 591.12 |
| LF04-4A | 2295852.98 | 6960300.48 | 625 84 | 611.08 |
| LF04-4B | 2296274.34 | 6960323 91 | 619.95 | 599.75 |
| LF04-4C | 2296593.5 | 6960604 | 612.96 | 591.41 |
| LF04-4D | 2296416.39 | 6960831 59 | 615 13 | 591.72 |
| LF04-4E | 2296411 | 6961036.04 | 618.49 | 591.60 |
| LF04-4F | 2296058.77 | 6961061.85 | 625 28 | 592 78 |
| LF04-4G | 2296658.93 | 6961224.13 | 619.75 | 590.75 |
| LF05-01 | 2294577.8 | 6962728.3 | 621.88 | 601.18 |
| LF05-02 | 2295278.9 | 6962653.1 | 622.61 | 596 32 |
| LF05-18 | 2297075.4 | 6961555 6 | 611.71 | 590.85 |
| LF05-19 | 2297461 4 | 6961239.9 | 606.05 | 589.38 |
| LF05-5A | 2295580.9 | 6961438.56 | 623.00 | 595.19 |
| LF05-5B | 2296078.25 | 6961901.56 | 600.40 | 593.40 |
| LF05-5C | 2295993.73 | 6961720.05 | 608.56 | 594.36 |
| LF05-5D | 2295757.04 | 6961740.47 | 611.40 | 595.82 |
| LF05-5E | 2295550.36 | 6961177.87 | 626.70 | 595.11 |
| LF05-5G | 2296536.32 | 6961581.32 | 615.28 | 591.51 |
| LF05-5H | 2296343 8 | 6961735.96 | 610.61 | --[1] |

**Table 5.1 (continued)**
**Groundwater Elevations for July 2000**

| Monitoring Well | Coordinates | | Top of Casing Elevation (ft above msl) | Groundwater Elevation (ft above msl) |
|---|---|---|---|---|
| | Easting | Northing | | |
| LSA1628-1 | 2297802.1 | 6967936 2 | 601.67 | 590.81 |
| LSA1628-2 | 2297846.5 | 6967943.3 | 601 93 | 590.64 |
| LSA1628-3 | 2297791.26 | 6967993.08 | 601 73 | 590.71 |
| LSA1628-14 | 2297896.92 | 6967908.3 | 601.60 | 590.22 |
| LSA1628-15 | 2297860.79 | 6967862.87 | 601.35 | 590.24 |
| MW-10 | 2300541.58 | 6965836.2 | 558.85 | 544.02 |
| MW-11 | 2300791.96 | 6965706.66 | 558.17 | 530.96 |
| MW-11A | 2297057.28 | 6965810.34 | 612.17 | 588.85 |
| MW-12 | 2300142 02 | 6966149.32 | 559.62 | 549.36 |
| MW-13 | 2295736.39 | 6961035.09 | 620.83 | --[2] |
| MW-18 | 2295389.85 | 6963519.14 | 621.19 | --[2] |
| MW-19 | 2295368.85 | 6963512.61 | 611.28 | 592.75 |
| MW-2 | 2300555.92 | 6965704.96 | 557.55 | 545.51 |
| MW-3 | 2299750 34 | 6965242.67 | 576.48 | 564.45 |
| MW-36 | 2299356.66 | 6965034 8 | 604.11 | 599.06 |
| MW-37 | 2299384.99 | 6965061.35 | 590.53 | 581.49 |
| MW-38 | 2298153.08 | 6965981.09 | 604 11 | 587.60 |
| MW-39 | 2298171.12 | 6965999.01 | 604.12 | 587.74 |
| MW-40 | 2298224.98 | 6966053.1 | 604.16 | 587.44 |
| MW-41 | 2298204.57 | 6966088.85 | 604.66 | 587.71 |
| MW-42 | 2298144.9 | 6966031.04 | 604.60 | 587.82 |
| MW-5 | 2300138.61 | 6965803.45 | 563.69 | 558 77 |
| MW-50 | 2295621.7 | 6968528.65 | 619.27 | 608.23 |
| MW-51 | 2295639 96 | 6968536.47 | 619.36 | 608.25 |
| MW-52 | 2296182.56 | 6964355.17 | 616.29 | 596.91 |
| MW-53 | 2296200.24 | 6964378.18 | 616.75 | 599.97 |
| MW-56 | 2296055.93 | 6968789 53 | 614.32 | 606.23 |
| MW-57 | 2297112.98 | 6967217.16 | 613 37 | 601.01 |
| MW-58 | 2297175.22 | 6966950.88 | 612.94 | --[2] |
| MW-59 | 2297160.82 | 6966970.47 | 613.37 | --[2] |
| MW-6 | 2300173.7 | 6965734.92 | 562 87 | 560.43 |
| MW-7 | 2300055.24 | 6965967.11 | 567.37 | 558.63 |
| MW-8 | 2300491.79 | 6965584.18 | 557.04 | 548.78 |
| MW-9 | 2300329.17 | 6966001.96 | 559 54 | 548.56 |
| MWMTAC-001 | 2296520 35 | 6959115.8 | 645.04 | 609.84 |
| OT-15C | 2300947.51 | 6963316.34 | 564.25 | 555.37 |
| SAV-1 | 2300298.89 | 6965776.36 | 560.15 | 547.70 |

**Table 5.1 (continued)**
**Groundwater Elevations for July 2000**

| Monitoring Well | Coordinates | | Top of Casing Elevation (ft above msl) | Groundwater Elevation (ft above msl) |
|---|---|---|---|---|
| | Easting | Northing | | |
| SAV-2 | 2300280.42 | 6965807 58 | 560.07 | 547.97 |
| SD13-01 | 2300621.42 | 6963391.74 | 573.09 | 560.36 |
| SD13-02 | 2300753.03 | 6963487.7 | 573.28 | 559.91 |
| SD13-03 | 2300699.63 | 6963362.92 | 571.41 | 560.26 |
| SD13-04 | 2300770.96 | 6963361.52 | 569.08 | 559.16 |
| SD13-05 | 2300775 29 | 6963904.28 | 571.54 | 562.09 |
| SD13-06 | 2300907.83 | 6963164.35 | 557.68 | 545.91 |
| SD13-07 | 2301009.34 | 6963167.04 | 560.44 | 541.75 |
| SPOT35-1 | 2296878.53 | 6966202.4 | 613 59 | 590.30 |
| SPOT35-3 | 2296850 62 | 6966108 75 | 612.02 | 591.06 |
| SPOT35-4 | 2296777.88 | 6966174 92 | 612.74 | 591.19 |
| SPOT35-5 | 2296846.73 | 6966020.04 | 614.09 | 591.16 |
| SPOT35-6 | 2296634.63 | 6966234.61 | 615.68 | 591.62 |
| SPOT35-7 | 2296508.59 | 6966534.79 | 616.41 | 607.94 |
| SPOT35-8 | 2296970.16 | 6966428.55 | 613.50 | 590.11 |
| SPOT35-9 | 2296780.62 | 6966581.53 | 615.04 | 591 96 |
| ST14-01 | 2300090.8 | 6963295 3 | 575.95 | 561.92 |
| ST14-02 | 2300091.7 | 6963511.6 | 575.51 | 562.76 |
| ST14-03 | 2299891 6 | 6964080 | 576.68 | 565.81 |
| ST14-04 | 2300345.3 | 6963642.7 | 575.61 | 562 58 |
| ST14-24 | 2299084.2 | 6964017 89 | 594.14 | 582.81 |
| ST14-25 | 2299065.36 | 6964563.76 | 592.94 | 586.46 |
| ST14-27 | 2300212.35 | 6964257.94 | 573.85 | 564.43 |
| ST14-28 | 2300495.99 | 6963728.32 | 574.45 | 562.40 |
| ST14-29 | 2300512.78 | 6963527.79 | 571.45 | 561.48 |
| ST14-30 | 2300466.18 | 6963211.53 | 566 87 | 560.51 |
| ST14-W05 | 2299093.85 | 6963726.06 | 593.63 | 584.61 |
| ST14-W06 | 2299330.79 | 6963806 56 | 581.42 | 568.91 |
| ST14-W07 | 2299393.81 | 6963614.61 | 579.96 | 566 18 |
| ST14-W08 | 2299479.59 | 6964323.98 | 580.54 | 568.75 |
| ST14-W09 | 2299550.1 | 6963471.69 | 575.54 | 565.67 |
| ST14-W10 | 2299730.13 | 6963949.34 | 573.99 | 565.78 |
| ST14-W11 | 2299657.97 | 6964128 6 | 576.31 | 567.30 |
| ST14-W12 | 2299581.06 | 6963953.27 | 575.52 | 567.91 |
| ST14-W13 | 2299776.44 | 6963695.16 | 574.49 | 564.31 |
| ST14-W15 | 2299923.11 | 6963315.79 | 573.47 | 562 41 |
| ST14-W16 | 2300128.3 | 6964064.61 | 573.62 | 564.76 |

**Table 5.1 (continued)**
**Groundwater Elevations for July 2000**

| Monitoring Well | Coordinates | | Top of Casing Elevation (ft above msl) | Groundwater Elevation (ft above msl) |
|---|---|---|---|---|
| | Easting | Northing | | |
| ST14-W18 | 2300162.47 | 6963906.73 | 573.79 | 564.33 |
| ST14-W19 | 2300203.61 | 6963699.8 | 573.31 | 563.08 |
| ST14-W20 | 2300275.36 | 6964009 08 | 573.48 | 563.77 |
| ST14-W21 | 2300242.02 | 6963417.82 | 572 88 | 562.06 |
| ST14-W22 | 2301016.39 | 6963649.64 | 571.30 | 560.79 |
| ST14-W23 | 2300410 37 | 6962949.06 | 565.60 | 558.14 |
| ST14-W31 | 2300830.86 | 6963549.67 | 571 23 | 560.38 |
| ST14-W32 | 2300815.07 | 6963239.02 | 564.15 | 559.12 |
| USGS03T | 2300610 | 6968704.7 | 575.02 | 570.40 |
| USGS04T | 2299178 7 | 6968773 | 604.92 | --[2] |
| USGS06T | 2297542.1 | 6963777 9 | 606.67 | --[3] |
| USGS07T | 2295246.5 | 6960182.5 | 632 43 | 620.54 |
| W-153 | 2294096.2 | 6965106.3 | 631.57 | 609.14 |
| WCHMHTA001 | 2293437.6 | 696528.17 | 639.08 | 609.20 |
| WCHMHTA002 | 2294553.41 | 6966740.53 | 631.32 | 608.87 |
| WCHMHTA003 | 2294774.14 | 6967153.88 | 631 00 | 608.57 |
| WCHMHTA004 | 2294776.1 | 6967144 61 | 631.25 | 608.61 |
| WCHMHTA005 | 2295397.82 | 6966691.19 | 626 95 | 608.04 |
| WCHMHTA006 | 2295406.97 | 6966690.11 | 626.73 | 607.98 |
| WCHMHTA007 | 2295645.39 | 6967105.89 | 623.93 | 607.74 |
| WCHMHTA008 | 2295597.48 | 6967889.89 | 622 85 | 607.45 |
| WCHMHTA009 | 2296395.01 | 6967635.29 | 615.55 | 607.37 |
| WCHMHTA010 | 2296398.8 | 6967640.08 | 615.35 | 608.18 |
| WCHMHTA011 | 2297063.01 | 6968490.51 | 605.80 | 592.36 |
| WCHMHTA012 | 2297425.82 | 6967840.86 | 605.85 | 591.18 |
| WCHMHTA013 | 2299786.18 | 6966251.26 | 578.26 | 561.01 |
| WCHMHTA014 | 2294072 81 | 6970403.9 | 619.11 | 610 66 |
| WHGLRW015 | 2298662.64 | 6960871.43 | 604.64 | 588.94 |
| WHGLRW016 | 2299201.47 | 6961034.95 | 602.35 | 587.87 |
| WHGLRW017 | 2299000.59 | 6960727.11 | 604 66 | 588.06 |
| WHGLRW018 | 2298744.63 | 6960532.93 | 608.05 | 589.34 |
| WHGLRW019 | 2298620.19 | 6960684.23 | 605.39 | 589.52 |
| WHGLTA002 | 2296111.39 | 6962377.91 | 608.52 | 593.85 |
| WHGLTA003 | 2298029.84 | 6961043.88 | 614.22 | 590.58 |
| WHGLTA004 | 2295760.62 | 6962943.38 | 614.35 | 595.62 |
| WHGLTA005 | 2301043.78 | 6963469 85 | 570.56 | 558.59 |
| WHGLTA007 | 2301093.17 | 6963162.46 | 552.88 | 537.35 |

**Table 5.1 (continued)**
**Groundwater Elevations for July 2000**

| Monitoring Well | Coordinates | | Top of Casing Elevation (ft above msl) | Groundwater Elevation (ft above msl) |
|---|---|---|---|---|
| | Easting | Northing | | |
| WHGLTA008 | 2300016.84 | 6963955.17 | 572.37 | 564.99 |
| WHGLTA009 | 2297528.7 | 6965211.65 | 612.09 | 588.22 |
| WHGLTA010 | 2296770.93 | 6965580.03 | 618.13 | 591.44 |
| WHGLTA011 | 2295873.87 | 6968356.67 | 619.71 | 607.65 |
| WHGLTA012 | 2297740 | 6965920.84 | 606 64 | 587.89 |
| WHGLTA013 | 2297177.07 | 6965957.77 | 611.13 | 588.33 |
| WHGLTA014 | 2297373.92 | 6966295.34 | 610.26 | 588.94 |
| WHGLTA020 | 2299684.95 | 6962285.83 | 568.80 | 556.70 |
| WHGLTA022 | 2297691.54 | 6960401.65 | 614.94 | 591.04 |
| WHGLTA023 | 2298565.43 | 6960492.16 | 608.52 | 590.14 |
| WHGLTA025 | 2298942.63 | 6961608 26 | 601.46 | 584.73 |
| WHGLTA026 | 2297200.73 | 6967204.01 | 612 10 | 591.04 |
| WHGLTA027 | 2297196.85 | 6967173.21 | 612.33 | 591.38 |
| WHGLTA028 | 2297450.94 | 6967760.51 | 605.76 | 591.47 |
| WHGLTA029 | 2298574.35 | 6965736.08 | 603.13 | --[2] |
| WHGLTA030 | 2299155.33 | 6964327.76 | 589.07 | 585.90 |
| WHGLTA031 | 2299198.98 | 6964366.12 | 592.78 | 585.89 |
| WHGLTA033 | 2299565.05 | 6964665.24 | 581.29 | 568.67 |
| WHGLTA034 | 2301060.21 | 6963889.66 | 570.75 | 561 04 |
| WHGLTA035 | 2301048.39 | 6963823.75 | 571.06 | 561.25 |
| WHGLTA036 | 2300458.39 | 6966001.70 | 554.95 | 544.59 |
| WHGLTA037 | 2300596.51 | 6965905 87 | 555.73 | 540.26 |
| WHGLTA038 | 2300726.46 | 6965829.45 | 556.05 | --[1] |
| WHGLTA039 | 2299277.71 | 6964408.76 | 589.68 | 569.27 |
| WHGLTA101 | 2301220.30 | 6964633.49 | 559 35 | 543.19 |
| WHGLTA102 | 2301388.56 | 6964448.94 | 559.86 | 543.50 |
| WHGLTA103 | 2301522.24 | 6964314.53 | 559.77 | 536.29 |
| WHGLTA104 | 2301608 27 | 6964225 38 | 560.39 | 529.27 |
| WHGLTA201 | 2298660 88 | 6963198 14 | 603 21 | 584.52 |
| WHGLTA202 | 2298832.59 | 6963326.21 | 603.45 | 584.55 |
| WHGLTA203 | 2298400.38 | 6963058.53 | 600.98 | 584.72 |
| WHGLTA204 | 2298104.66 | 6963625.62 | 605.57 | 587.58 |
| WHGLTA302 | 2294422.27 | 6962602.64 | 621.70 | 606.72 |
| WHGLTA303 | 2294400.77 | 6962351.21 | 622.77 | 600.47 |
| WHGLTA601 | 2297473.69 | 6962697.81 | 600 00 | 585.36 |
| WHGLTA602 | 2297625.01 | 6962752.66 | 612.09 | 596.74 |
| WHGLTA603 | 2297727.19 | 6962713.38 | 600.92 | 584.28 |

**Table 5.1 (continued)**
**Groundwater Elevations for July 2000**

| Monitoring Well | Coordinates | | Top of Casing Elevation (ft above msl) | Groundwater Elevation (ft above msl) |
|---|---|---|---|---|
| | Easting | Northing | | |
| WHGLTA604 | 2297530.02 | 6963195.39 | 607.43 | 587.93 |
| WHGLTA701 | 2295332 86 | 6961835.73 | 623 08 | 596.24 |
| WHGLTA702 | 2295882.07 | 6961920.16 | 609.41 | 595.43 |
| WHGLTA703 | 2295741.23 | 6961680.7 | 615 07 | 595.75 |
| WHGLTA704 | 2295831.51 | 6962141.07 | 608.84 | 596 25 |
| WHGLTA705 | 2296026.58 | 6962002.86 | 598 79 | 593.08 |
| WHGLTA706 | 2296030.82 | 6962146.24 | 607.15 | 593.46 |
| WHGLTA801 | 2295857.80 | 6962790.06 | 601.48 | 592.36 |
| WHGLTA803 | 2296040.83 | 6962524.15 | 602.13 | 593.58 |
| WHGLTA901 | 2299642 88 | 6967831.58 | 583.57 | 573.63 |
| WHGLTA902 | 2299952.24 | 6967670 51 | 558 75 | 541 40 |
| WHGLTA903 | 2300086.51 | 6967830.00 | 559.26 | 532.49 |
| WHGLTA904 | 2300174.31 | 6968031.25 | 560.47 | 532.28 |
| WHGLTA905 | 2299782.00 | 6967573 60 | 562 36 | 542.76 |
| WHGLTA952 | 2299956 02 | 6967676.53 | 558.76 | 532.57 |
| WHGLTA953 | 2300078.45 | 6967825.90 | 559.36 | 532.51 |
| WHGLTA954 | 2300179.00 | 6968032.47 | 563 07 | 533.76 |
| WITCTA001 | 2296446.73 | 6969591.01 | 610.85 | --[4] |
| WITCTA002 | 2296135 48 | 6969258.49 | 613.36 | 609.19 |
| WITCTA003 | 2297405.05 | 6969111.3 | 607 58 | 592 69 |
| WITCTA004 | 2297490.47 | 6968938.83 | 606.62 | 592.59 |
| WITCTA005 | 2298166.79 | 6968458.46 | 602.81 | 589 56 |
| WITCTA006 | 2298261 86 | 6968425 94 | 602 76 | 589.38 |
| WITCTA007 | 2298432.07 | 6968309.56 | 603.03 | 587.87 |
| WITCTA008 | 2298030 12 | 6967939.66 | 600.62 | 591.41 |
| WITCTA009 | 2298232.9 | 6967860.6 | 597.15 | 590.23 |
| WITCTA010 | 2298752.18 | 6967693.53 | 600.31 | 585.01 |
| WITCTA011 | 2297357.31 | 6967455.26 | 610.27 | 592.60 |
| WITCTA012 | 2298224.39 | 6967348.77 | 599 93 | 589.09 |
| WITCTA013 | 2297750.98 | 6967015.62 | 605.39 | 589.70 |
| WITCTA014 | 2297417.51 | 6966903.57 | 611.74 | 590 48 |
| WITCTA015 | 2298395.02 | 6966332.67 | 606.84 | 588.41 |
| WITCTA016 | 2298061 33 | 6966238.29 | 607.85 | 588.71 |
| WITCTA017 | 2299305.78 | 6967298.15 | 592.94 | 583.58 |
| WITCTA019 | 2298838.01 | 6963107.25 | 600.82 | 585.57 |
| WITCTA020 | 2296316.79 | 6963895.32 | 616.78 | 594.46 |
| WITCTA021 | 2298718.16 | 6963794.4 | 604.19 | 588.32 |

**Table 5.1 (continued)**
**Groundwater Elevations for July 2000**

| Monitoring Well | Coordinates | | Top of Casing Elevation (ft above msl) | Groundwater Elevation (ft above msl) |
|---|---|---|---|---|
| | Easting | Northing | | |
| WITCTA022 | 2298742.85 | 6963649.92 | 604.17 | 586.45 |
| WITCTA024 | 2298956.02 | 6965971.78 | 604.86 | 587.54 |
| WITCTA025 | 2299534 28 | 6966004.92 | 595.20 | 584.26 |
| WITCTA026 | 2299480.09 | 6965456.85 | 584.37 | 578.66 |
| WITCTA027 | 2299510.86 | 6965193.74 | 581.44 | 569.72 |
| WITCTA028 | 2300621.25 | 6965160 62 | 558.11 | 547.22 |
| WITCTA031 | 2299152.2 | 6964689.93 | 592.10 | 587.64 |
| WITCTA032 | 2299195.64 | 6964500.67 | 587.37 | 579.98 |
| WITCTA033 | 2300475.24 | 6964323.67 | 574.06 | 564.46 |
| WITCTA034 | 2300951.49 | 6963956.68 | 571.95 | 562.91 |
| WITCTA035 | 2299093 68 | 6963387.12 | 599.37 | 585.49 |
| WITCTA037 | 2297784.44 | 6963424.04 | 604.19 | 588 84 |
| WITCTA039 | 2295415.41 | 6962339 77 | 619.47 | 597 72 |
| WITCTA040 | 2299514.54 | 6963259 78 | 579.03 | 565.85 |
| WITCTA041 | 2299642.1 | 6963168.75 | 577.97 | 563.24 |
| WITCTA042 | 2299653.16 | 6963108.38 | 576.76 | 563.05 |
| WITCTA043 | 2299724.86 | 6963110.05 | 576.72 | 563.07 |
| WITCTA044 | 2299836 | 6963055.72 | 575.76 | 562.23 |
| WITCTA045 | 2299046 96 | 6964832.07 | 520.27 | -- |
| WITCTA046 | 2299062.18 | 6964719.23 | 590.08 | 586.31 |
| WITCTA047 | 2299169.81 | 6964663.89 | 589.46 | -- |
| WITCTA048 | 2299238.72 | 6964667.96 | 589.46 | 585.78 |
| WITCTA057 | 2295952.51 | 6961308.78 | 624.74 | 594.46 |
| WJETA530 | 2296533.87 | 6959546.93 | 639.39 | 602.97 |
| WJETA534 | 2296341.54 | 6958941.15 | 647.38 | 613.87 |
| WJETA535 | 2296794.44 | 6959722.27 | 634.61 | 599.87 |
| WP07-10A | 2295807.3 | 6961290 | 626.50 | 594.76 |
| WP07-10B | 2296040 4 | 6961277.5 | 624 22 | 592.63 |
| WP07-10C | 2296062.4 | 6961575.6 | 617.18 | 593.29 |

Notes
[1] Monitoring well was dry.
[2] Monitoring well was not located
[3] Groundwater elevation could not be measured; monitoring well contains Jacobs dedicated pump.
[4] Monitoring well was damaged.
Elevations are reported in feet above mean sea level (ft above msl).
-- Groundwater elevation could not be determined.

**Table 5.2**
**Monitoring Wells Not Gauged in July 2000**

| Well Condition | Well ID | Action |
|---|---|---|
| Dry Monitoring Wells | GMI-22-01M | Will gauge in January 2001 |
| | LF05-5H | |
| | WHGLTA038 | |
| Monitoring Wells Abandoned in 2000 | HM-122 | Remove from list |
| | LF04-4H | |
| | LF05-5D | |
| | LF05-5F | |
| | MW1-16 | |
| | MW-12A | |
| | MW-20 | |
| | MW-21 | |
| | MW-48 | |
| | MW-49 | |
| | MW-57B | |
| | SPOT25-2 | |
| | ST14-14 | |
| | ST14-26 | |
| | WITCTA036 | |
| | WJETA531 | |
| Monitoring Wells Abandoned by the Navy | BSS-B | Remove from list |
| | MW-4 | |
| Monitoring Wells Destroyed | LF04-04 | Remove from list |
| | MW-13 | |
| | MW-18 | |
| | MW-58 | |
| | MW-59 | |
| Monitoring Well Contained Dedicated Pump (installed by different contractor) | USGS06T | Will gauge in January 2001 |
| Monitoring Wells Damaged | WITCTA001 | Has been repaired |
| Unable to Locate | WHGLTA029 | Will gauge in January 2001 |
| | USGS04T | |

## 5.2 CONTAMINANT EVALUATION

To facilitate discussion of contamination at NAS Fort Worth JRB, contaminant levels determined from analytical sampling were compared to several threshold values. The results of metals analyses were compared to established background concentrations (Jacobs, 1998), and the results of the organic analyses were compared to method quantitation limits (MQLs) (see Section 5.2.2). These comparisons identified locations where contamination is likely, and monitoring should be continued to provide further characterization. In addition, all data, both inorganic and organic constituent concentrations, were compared to the TNRCC Risk Reduction Standard 2 (RRS 2) values. Comparison of contaminant concentrations to their respective RRS 2 value provides a basis for risk assessment. Concentrations of contaminants that exceed their respective RRS 2 values indicate areas where continued monitoring or remedial action may be necessary.

### 5.2.1 Background Concentrations

Background concentrations were determined for 24 inorganic constituents at NAS Fort Worth JRB in December 1996 (Jacobs, 1998). A single groundwater sample was collected from 12 background monitoring wells using a low-stress technique to approximate filtered samples. The groundwater monitoring wells sampled, both newly installed and existing, were located up- and cross-gradient from monitoring wells known to contain VOCs and semivolatile organic compounds.

The tolerance interval (TI) method suggested by the EPA (USEPA, 1989, 1992) was used to estimate background concentrations for the 24 inorganic constituents for comparison to compliance monitoring wells. TIs are useful for groundwater data analysis because it is important to ensure that, at most, a small fraction of the compliance monitoring wells sampled exceed a specific concentration level (USEPA, 1992). Two coefficients are associated with any TI. One is the proportion of the population the interval is supposed to contain, called the coverage. The second is the degree of confidence with which the interval reaches the specified coverage, known as the tolerance coefficient. The $UTL_{95,95}$ is the upper tolerance limit (UTL) of a TI with a coverage of 95 percent and a tolerance coefficient of 95 percent. The $UTL_{95,95}$ was determined by Jacobs (1998) as the background concentration for comparison to contaminant concentrations. These values are provided in Table 5.3.

### 5.2.2 Detection and Quantitation Limits

A PQL is the lowest analytical result level that can reasonably be achieved within specified limits of precision and accuracy during routine laboratory conditions. Each PQL value is higher than the associated MDL, which is the minimum concentration of a substance that can be measured and reported with 99-percent confidence the analyte concentration is greater than zero. Both MDLs and PQLs are adjusted for sample-specific conditions such as moisture, subsample mass, and dilution. Sample concentrations falling between the MDL and PQL are assigned an "F" qualifier indicating the variability of the result (HydroGeoLogic, 2000b). In

**Table 5.3**
**Background and Risk Reduction Standard 2**
**Values for Inorganic Constituents in Groundwater**

| Metal | Background Value (µg/L) | RRS 2 Value (µg/L) | RRS 2 Value Source[1] |
|---|---|---|---|
| Aluminum | 1,332 | 100,000 | TNRCC |
| Antimony | 2 | 6 | TNRCC |
| Arsenic | 4.9 | 50 | TNRCC |
| Barium | 587 | 2,000 | TNRCC |
| Beryllium | 0.3 | 4 | TNRCC |
| Cadmium | 0.5 | 5 | TNRCC |
| Calcium | 226,300 | -- | Essential Nutrient[2] |
| Chromium | 6 | 100 | TNRCC |
| Cobalt | 8.9 | 6,100 | TNRCC |
| Copper | 2 8 | 1,300 | TNRCC |
| Iron | 224 | 300 | Derived |
| Lead | 1.6 | 15 | TNRCC |
| Magnesium | 37,800 | -- | Essential Nutrient[2] |
| Manganese | 175 | 14,000 | TNRCC |
| Mercury | 0.1 | 2 | TNRCC |
| Molybdenum | 14 4 | 510 | TNRCC |
| Nickel | 20 4 | 2,000 | TNRCC |
| Potassium | 15,030 | -- | Essential Nutrient[2] |
| Selenium | 7 7 | 50 | TNRCC |
| Silver | 0.2 | 510 | TNRCC |
| Sodium | 167,000 | -- | Essential Nutrient[2] |
| Tin[3] | | 61,000 | TNRCC |
| Thallium | 63.2 | 2 | TNRCC |
| Vanadium | 12 | 720 | TNRCC |
| Zinc | 118 | 31,000 | TNRCC |

Notes.
1 Source of all values was Texas Natural Resource Conservation Commission (TNRCC) Risk Reduction Standards 2 (30 TAC 335). Those noted as "Derived" were derived based on procedures presented in the regulations.
2 Essential Nutrient - no risk values available.
3 Tin was not included in the background study.

July 1998, the TNRCC issued an Interoffice Consistency Memorandum (TNRCC, 1998a), followed in September 1998 by an Erratum Sheet (TNRCC, 1998b). The Consistency Memorandum defined a MQL as the demonstrated lower limit of the linear range for that analyte. As defined, an analyte's MQL is analogous to the PQL reported by the laboratory without adjustment for sample-specific conditions. The Erratum Sheet also defined an analyte sample quantitation limit as that analyte's MDL adjusted for sample specific conditions. Because a background concentration for organic compounds is not appropriate, the MQL is used for comparison purposes.

### 5.2.3 Risk Reduction Standard 2

RRS 2 values are the chemical-specific cleanup levels for remediation of groundwater contaminated by a release(s) from a SWMU or AOC. These values are established from health-based standards and criteria (Texas and/or Federal) pursuant to TNRCC Regulations, 30 Texas Administrative Code (TAC) 335.551-335.569. If the PQL and/or background concentration for a given chemical is greater than the RRS 2 level, either the PQL or the background value, whichever is greater, is to be used for determining compliance with requirements of groundwater remediation. If RRS 2 values are not available or do not provide appropriate protection for human health or the environment, cleanup levels based on other numeric criteria, referred to as medium specific concentrations (MSCs), must be established. Formulas to develop MSCs, based on exposure factors and pathways and chemical-specific toxicity, are provided in 30 TAC 335.558 (i.e., MSCs for RRS 2). RRS 2 values for inorganic and organic compounds are provided in Table 5.3 and Table 5.4, respectively.

## 5.3 ANALYTICAL RESULTS

Of the 19 monitoring wells proposed for analytical sampling in the GSAP, all of the monitoring wells were sampled during the July 2000 event, plus two additional monitoring wells. A complete listing of the analytical results from the July 2000 sampling event is provided in Table B.1 of Appendix B.

### 5.3.1 Volatile Organic Compounds

A total of 21 monitoring wells were sampled for VOCs during the July 2000 basewide sampling event using EPA Analytical Method SW8260B. The VOCs detected above PQLs in the monitoring wells during this sampling event are presented in Table 5.5. Locations of the monitoring wells are provided in Figure 3.1. Chlorinated solvents and their daughter products were detected in groundwater samples collected from 15 of the 21 monitoring wells sampled during the July 2000 sampling event.

Tetrachloroethene (PCE) was detected in groundwater samples collected from 6 of the 21 monitoring wells. These monitoring wells are identified on Figure 5.2. Positive PCE sample

**Table 5.4**
**Risk Reduction Standard 2 Values**
**for Volatile Organic Compounds in Groundwater**

| VOC | RRS 2 Value (µg/L) | RRS 2 Value Source[1] |
|---|---|---|
| 1,1-Dichloroethane | 10,000 | TNRCC |
| 1,1-Dichloroethene | 7 | TNRCC |
| 2-Methylnaphthalene | 4,100 | TNRCC |
| Benzene | 5 | TNRCC |
| Bis(2-Ethylhexyl)phthalate | 6 | TNRCC |
| Bromodichloromethane | 100 | TNRCC |
| Chlorobenzene | 100 | TNRCC |
| Chloroform | 100 | TNRCC |
| *cis*-1,2-Dichloroethene | 70 | TNRCC |
| Ethylbenzene | 700 | TNRCC |
| Isopropylbenzene (cumene) | 10,000 | TNRCC |
| *m*-Xylene & *p*-xylene | 10,000 | Derived |
| Methyl *tert*-butyl ether | 1,000 | TNRCC |
| *n*-Butylbenzene | 1,000 | Derived |
| *n*-Propylbenzene | 10,000 | Derived |
| Naphthalene | 2,000 | TNRCC |
| *o*-Xylene | 10,000 | TNRCC |
| Isopropylbenzene | 10,000 | TNRCC |
| *p*-Isopropyltoluene (*p*-cymene) | 1,000 | Derived |
| *Sec*-Butylbenzene | 1,020 | Derived |
| *tert*-Butylbenzene | 1,020 | Derived |
| Tetrachloroethene (PCE) | 5 | TNRCC |
| Toluene | 1,000 | TNRCC |
| *trans*-1,2-Dichloroethene | 100 | TNRCC |
| Trichloroethene (TCE) | 5 | TNRCC |
| Trichlorofluoromethane | 31,000 | TNRCC |
| 1,2,4-Trimethylbenzene | 5,100 | Derived |
| 1,3,5-Trimethylbenzene | 5,100 | Derived |
| Vinyl chloride | 2 | TNRCC |

Notes.
[1] Source of all values was Texas Natural Resource Conservation Commission (TNRCC) Risk Reduction Standards 2 (30 TAC 335). Those noted as "Derived" were derived based on procedures presented in the regulations.

**Table 5.5**
**Detections of Volatile Organic Compounds Detected Above the PQL in TCE Plume Monitoring Wells Sampled Using Analytical Method SW8260B**

| Well | Analyte | Result (µg/L) |
|---|---|---|
| GMI-22-06M | 1,1-Dichloroethene | 0.5 |
| | Chloroform | 0.6 |
| | *cis*-1,2-Dichloroethene | 91[1] |
| | Tetrachloroethene (PCE) | 1 |
| | *trans*-1,2-Dichloroethene | 6 |
| | Trichloroethene (TCE) | 540[1] |
| HM-123 | 1,1-Dichloroethane | 1 |
| | 1,1-Dichloroethene | 3 |
| | Chloroform | 0.7 |
| | *cis*-1,2-Dichloroethene | 550[1] |
| | Tetrachloroethene (PCE) | 0.7 |
| | *trans*-1,2-Dichloroethene | 14 |
| | Trichloroethene (TCE) | 3,000[1] |
| | Trichlorofluoromethane | 0.6 |
| | Vinyl chloride | 2 |
| HM-126 | 1,1-Dichloroethane | 0.4 |
| | 1,1-Dichloroethene | 1 |
| | Chloroform | 0.6 |
| | *cis*-1,2-Dichloroethene | 70[1] |
| | Tetrachloroethene (PCE) | 1 |
| | *trans*-1,2-Dichloroethene | 3 |
| | Trichloroethene (TCE) | 1,500[1] |
| ITMW-01T | *cis*-1,2-Dichloroethene | 5 |
| | Trichloroethene (TCE) | 13 |
| LF03-3D | Methyl *tert*-butyl ether | 2 |
| LF05-01 | 1,1-Dichloroethane | 0 5 |
| | *cis*-1,2-Dichloroethene | 60[1] |
| | *trans*-1,2-Dichloroethene | 4 |
| | Trichloroethene (TCE) | 6 |
| | Vinyl chloride | 79[1] |
| LF05-5G | 1,1-Dichloroethane | 0.4 |
| | 1,1-Dichloroethene | 5 J[2] |
| | 1,4-Dichlorobenzene | 2 |
| | Chlorobenzene | 1 |
| | *cis*-1,2-Dichloroethene | 280[1,2] |
| | *trans*-1,2-Dichloroethene | 28[2] |
| | Trichloroethene (TCE) | 790[1,2] |
| | Vinyl chloride | 19 J[2] |

## Table 5.5 (continued)
## Detections of Volatile Organic Compounds Above Practical Quantitation Limit in TCE Plume Monitoring Wells Sampled

| Well | Analyte | Result (µg/L) |
|---|---|---|
| MW-53 | Methyl *tert*-butyl ether | 1 |
| | Trichloroethene (TCE) | 5 |
| SPOT35-5 | Isopropylbenzene (cumene) | 28 |
| | Naphthalene | 44[1] |
| | *n*-Propylbenzene | 36 |
| | *sec*-Butylbenzene | 9 |
| | *tert*-Butylbenzene | 2 |
| USGS07T | Tetrachloroethene (PCE) | 1 |
| W-153 | 1,1-Dichloroethane | 0.4 |
| | 1,1-Dichloroethene | 2 J |
| | Chloroform | 0.6 |
| | *cis*-1,2-Dichloroethene | 110[1] |
| | Tetrachloroethene (PCE) | 5 |
| | *trans*-1,2-Dichloroethene | 1 |
| | Trichloroethene (TCE) | 730[1] |
| | Trichlorofluoromethane | 3 |
| WHGLRW015 | *cis*-1,2-Dichloroethene | 10 |
| | Trichloroethene (TCE) | 26 |
| WHGLTA011 | Trichloroethene (TCE) | 8 |
| WHGLTA025 | *cis*-1,2-Dichloroethene | 2 |
| | Trichloroethene (TCE) | 7 |
| WITCTA004 | 1,1-Dichloroethene | 1 J |
| | *cis*-1,2-Dichloroethene | 19 |
| | Tetrachloroethene (PCE) | 0.6 |
| | *trans*-1,2-Dichloroethene | 0.8 J |
| | Trichloroethene (TCE) | 180[1] |
| WITCTA010 | *cis*-1,2-Dichloroethene | 1 |
| | Isopropylbenzene (cumene) | 0.6 |
| | *trans*-1,2-Dichloroethene | 0.6 |
| | Vinyl chloride | 2 |
| WITCTA024 | *tert*-Butylbenzene | 2 |
| | Vinyl chloride | 3 |

Notes:
[1] Analytical results were taken from the reanalysis of this sample.
[2] The result was taken from the associated field duplicate.

Underlined results represent values detected above RRS 2 levels.
J- The analyte was positively identified, but the quantitation is an estimate.
Rejected results are not included within this table.

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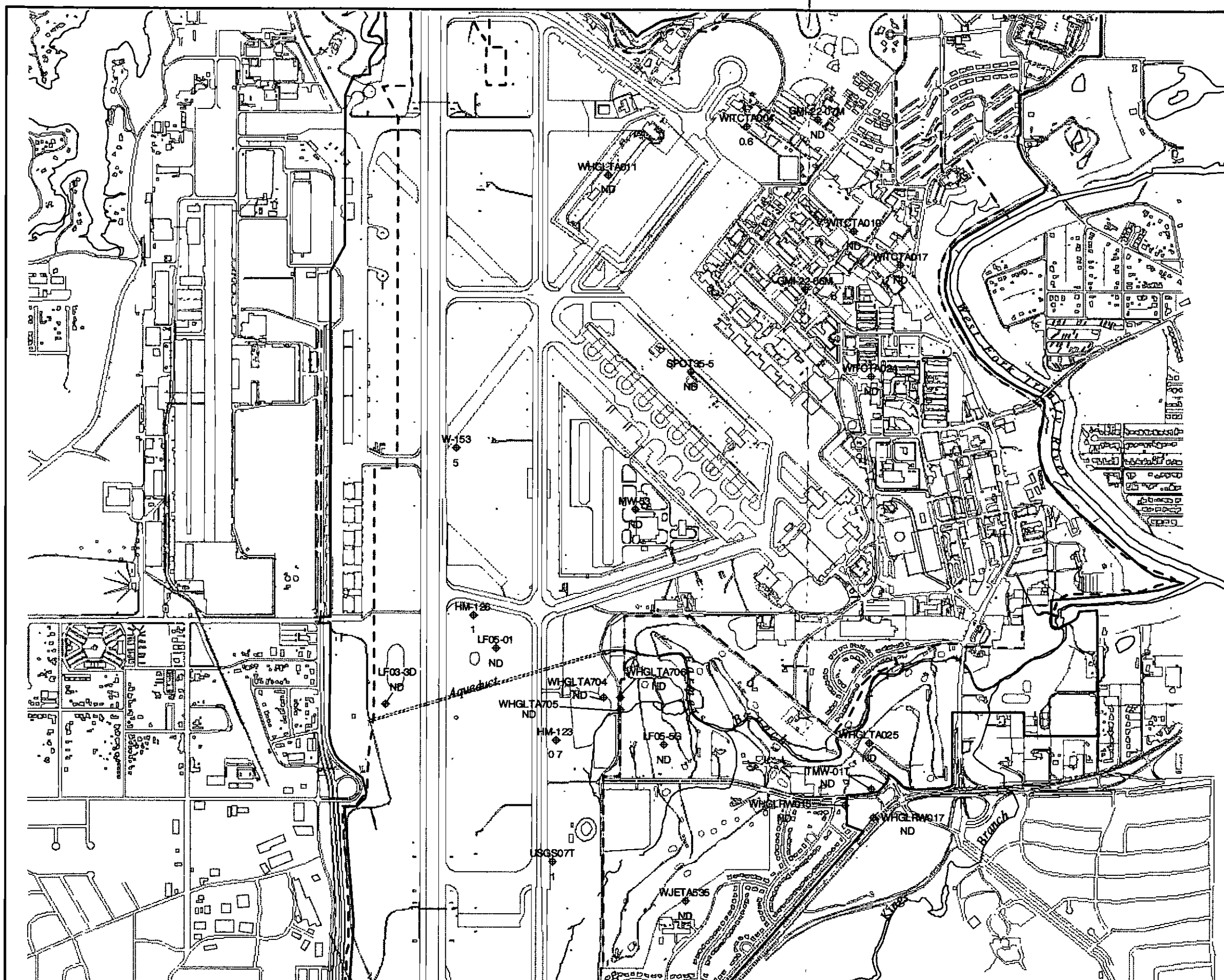


*HydroGeoLogic, Inc —July 2000 Quarterly Report*
*NAS Fort Worth JRB, Texas*

**Figure 5.2**

**Tetrachloroethene Concentrations**
**Terrace Alluvium**
**July 2000**

U.S. Air Force Center For Environmental Excellence

**Legend**

- - - - NAS Fort Worth JRB (Carswell Field)

——— Former Carswell Air Force Base

MW-53 ◆ NAS Fort Worth JRB Basewide Sampling Well

13 PCE Concentration (µg/L)

ND = Not Detected at Laboratory Method Detection Limit of 0.5µg/L

N

600 0 600 1200
SCALE IN FEET

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*Revised 09/29/00 jb*
*Project AFC001-33DCBA*
*Map Source: HydroGeoLogic, Inc GIS Database, Jacobs Engineering*

HYDRO GeoLogic INC.

results ranged from 0.6 micrograms per liter (μg/L) to 5 μg/L at W-153, at the RRS 2 value of 5 μg/L.

TCE was detected in groundwater samples collected from 12 of the 21 monitoring wells at concentrations at or above the RRS 2 value of 5 μg/L.

The maximum TCE concentration detected was 3,000 μg/L in HM-123 located upgradient of Landfills 5 and 7. The lateral extent of the TCE plume did not change from the April quarterly results. The concentrations of TCE generally decreased since April. The TCE results from the July 2000 quarterly sampling event are presented in Figure 5.3.

*Cis*-1,2-dichloroethene (*cis*-1,2-DCE) was detected in groundwater samples collected from 11 of the 21 monitoring wells, five of which contained concentrations at or above the RRS 2 value of 70 μg/L. The maximum detection of 550 μg/L was found in the sample collected from HM-123. *Cis*-1,2-DCE results from the July 2000 quarterly sampling event are presented in Figure 5.4.

*Trans*-1,2-DCE was detected in groundwater samples from 8 of the 21 monitoring wells sampled. Concentrations of *trans*-1,2-DCE ranged from 1 μg/L to 28 μg/L. Sample results from one monitoring well, LF05-5G, showed a concentration of 28 μg/L exceeding the RRS 2 value of 100 μg/L. These concentrations are presented in Table 5.5.

1,1-Dichloroethene was detected in groundwater samples from 6 of the 21 monitoring wells at concentrations ranging from 0.5 μg/L to 5 J μg/L. There were no detections of 1,1-Dichloroethene above the RRS 2 value of 7 μg/L.

Vinyl chloride was detected in groundwater samples from 5 of the 21 monitoring wells. Sample results from all five monitoring wells contained concentrations of vinyl chloride at or above the RRS 2 value of 2 μg/L, with the highest concentration (79 μg/L) of vinyl chloride found in the groundwater sample from monitoring well LF05-01. The remaining four monitoring wells had vinyl chloride concentrations in the groundwater ranging from 2 μg/L to 19 J μg/L. The majority of the vinyl chloride contamination was found in groundwater samples from monitoring wells located in the area near Landfill 5.

1,1-Dichloroethane was detected in five groundwater samples at concentrations ranging from 0.4 μg/L to 1μg/L. The groundwater sample collected from monitoring well LF05-5G contained a concentration of 1,4-dichlorobenzene of 2 μg/L. Chlorobenzene was found in the groundwater sample from monitoring well LF05-5G at a concentration of 1 μg/L, respectively. Chloroform was detected in four groundwater samples at concentrations ranging from 0.6 μg/L to 0.7 μg/L. Trichlorofluoromethane was detected in two groundwater samples collected from monitoring wells HM-123 and W-153 at concentrations of 0.6 μg/L and 3 μg/L, respectively. All concentrations of these compounds were detected below their respective RRS 2 values.

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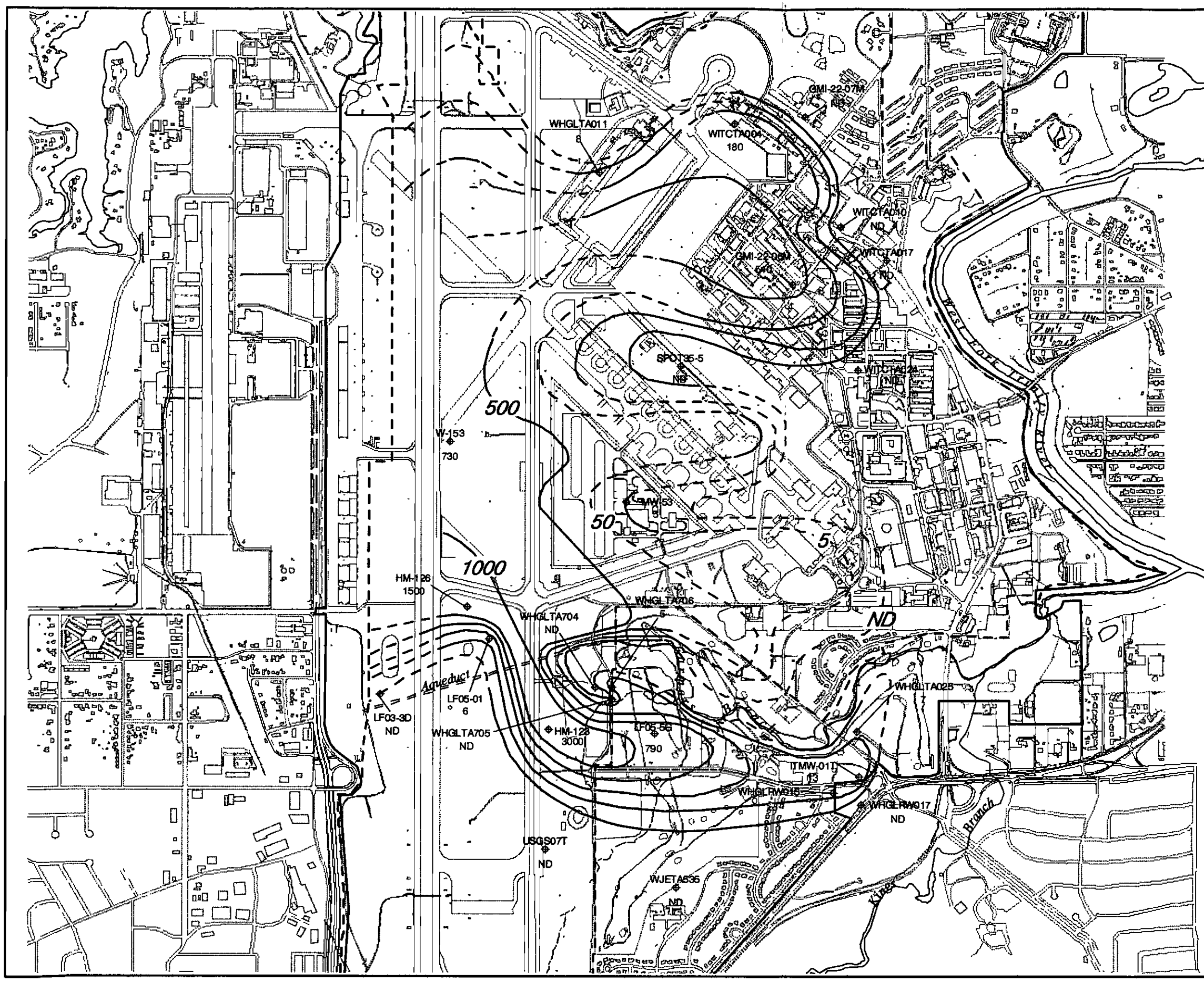


*HydroGeoLogic, Inc.—July 2000 Quarterly Report*
*NAS Fort Worth JRB, Texas*

**Figure 5.3**

**Trichloroethene Concentrations**
**Terrace Alluvium**
**July 2000**

U.S. Air Force Center For Environmental Excellence

**Legend**

- - - - NAS Fort Worth JRB (Carswell Field)

——— Former Carswell Air Force Base

-500- TCE Concentration Contour (µg/L)

MW-53 ◆ Sampling Well
13 TCE Concentration (µg/L)

ND = Not Detected at Laboratory Method Detection Limit of 0.5µg/L

N

600 0 600 1200
SCALE IN FEET

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*Revised 02/23/01 asp*
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*Map Source HydroGeoLogic, Inc GIS Database, Jacobs Engineering*

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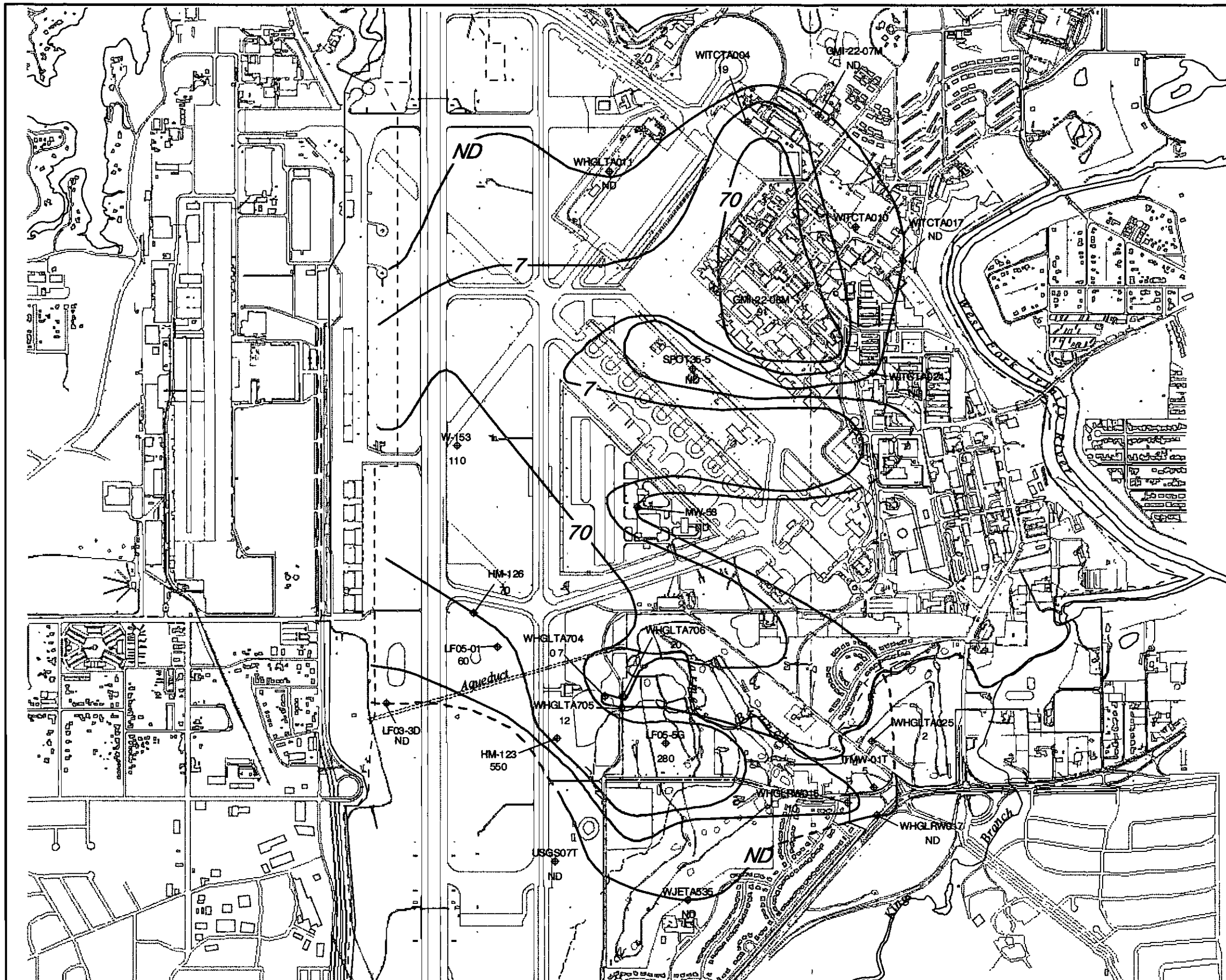


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*NAS Fort Worth JRB, Texas*

**Figure 5.4**

***cis*-1,2-Dichloroethene Concentrations**
**Terrace Alluvium**
**July 2000**

U.S. Air Force Center For Environmental Excellence

**Legend**

- - - - NAS Fort Worth JRB (Carswell Field)

——— Former Carswell Air Force Base

—70— *cis*-1,2-DCE Concentration Contour (µg/L)

MW-53 ◆ NAS Fort Worth JRB Basewide Sampling Well
19 *cis*-1,2-DCE Concentration (µg/L)

ND = Not Detected at Laboratory Method Detection Limit of 0.5µg/L

N

600 0 600 1200
SCALE IN FEET

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*Revised. 02/23/01 asp*
*Project AFC001-33DCBB*
*Map Source. HydroGeoLogic, Inc GIS Database, Jacobs Engineering*

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Fuel-related compounds, including isopropylbenzene (cumene); MTBE, naphthalene; *n*-propylbenzene; *sec*-butylbenzene; and *tert*-butylbenzene were detected in samples collected from the following monitoring wells: LF03-3D, MW-53, SPOT35-5, WITCTA010, and WITCTA024. The specific concentrations of these fuel-related compounds are presented in Table B.1 of Appendix B. Although the concentrations of these fuel-related compounds are above their PQLs, none of these compounds exceed their RRS 2 values. Out of the 21 monitoring wells, benzene was not detected in any of the groundwater samples collected during the July 2000 sampling event.

No VOCs were detected in the groundwater samples collected from perimeter monitoring wells WITCTA017 and WJETA535, or in monitoring wells GMI-22-07M and WHGLRW017.

### 5.3.2 Metals

Four TCE plume monitoring wells (ITMW-01T, USGS07T, WITCTA017, and WJETA535) were sampled for metals during the July 2000 quarterly sampling event. Sample results were compared to the background levels established for metals (Jacobs, 1998). Detections above background concentrations are provided in Table 5.6, and are depicted in Figure 5.5. Aluminum, manganese, and mercury were detected above background concentrations. All other metals analyzed were detected below their respective background concentrations. Of the metals detected above background, all were below the RRS 2 values.

**Table 5.6**
**Detections of Metals Above Background Concentrations in TCE Plume Monitoring Wells Sampled**

| Monitoring Well | Analyte | Background (µg/L) | RRS 2 (µg/L) | Result (µg/L) |
|---|---|---|---|---|
| ITMW-01T | Manganese | 175 | 14,000 | 228 |
| USGS07T | Aluminum | 1,332 | 100,000 | 1,440 J |
| WJETA535 | Mercury | 0.1 | 2 | 0.51 |

Notes:
J - The analyte was positively identified, the quantitation is an estimation.

### 5.3.3 Other Groundwater Investigations

In order to provide the most complete set of data for each quarterly report, the results of other groundwater investigations performed within the same time frame at the base are used to delineate the contaminants at the site. During this quarter, one other groundwater investigation was conducted to meet site specific monitoring objectives. Three monitoring wells were sampled as part of an ongoing RFI Investigation for Landfill 7. These monitoring wells (WHGLTA704, WHGLTA705, and WHGLTA706) were sampled for VOCs by EPA Method

SW8260B. The results used in this report are validated and can be found in Table B.2 of Appendix B.

# TAB

Section 6.0

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

Modifications to the sampling protocol are made between quarterly sampling events based on the data obtained during the previous sampling event and comparison of the results to the monitoring objectives discussed in Section 1.2 of this document. It is recommended that only a few changes be implemented for the October 2000 sampling at NAS Fort Worth JRB. All changes are described in the following discussion.

## 6.1 CHANGES IN MONITORING WELLS SELECTED FOR ANALYTICAL SAMPLING

In order to provide a sentinel well for the TCE plume, it is recommended that WHGLRW017 be sampled for VOCs until the southern plume delineation field effort is completed in the Fall of 2000. At that time, the well selection will be re-evaluated. A summary of the wells and analyses to be sampled during the October 2000 sampling event are presented in Table 6.1.

Previously, monitoring well HM-112 was sampled semi-annually as part of the AFP 4 sampling and semi-annually or quarterly as part of this GSAP effort at NAS Fort Worth JRB. From October 2000 forward, this monitoring well will only be sampled as part of the semi-annual AFP 4 sampling efforts and not the quarterly NAS Fort Worth JRB GSAP. This will eliminate any duplication of efforts and equipment. All monitoring and analytical data will be shared with HydroGeoLogic from the AFP 4 contractor.

**Table 6.1**
**TCE Plume Monitoring Wells Selected for October 2000 Basewide Sampling**

| Monitoring Well | Sample Parameters[1] | | |
|---|---|---|---|
| | VOCs | Metals | Natural Attenuation[2] |
| GMI-22-04M | X | | |
| GMI-22-07M | X | | |
| HM-116 | X | X[3] | |
| HM-123 | X | | X |
| ITMW-01T | X | X | X |
| LF03-3D | X | X[3] | |
| LF05-01 | X | | |
| LF05-5G | X | | X |
| MW-53 | X | | |
| W-153 | X | | |
| WHGLRW015 | X | | |
| WHGLRW017 | X | | |
| WHGLTA025 | X | | |
| WHGLTA203 | X | X | |
| WITCTA010 | X | X | |
| WITCTA024[4] | X | | X |
| WJETA535 | X | | X |

Notes.
[1]Samples from all monitoring wells will also be tested for the following standard field parameters: temperature, pH, specific conductance, dissolved oxygen (DO), oxidation-reduction potential (Eh), and turbidity.
[2]Natural attenuation parameters to be sampled are common anions (chloride, nitrate, sulfate); total organic carbon; Fe(II); alkalinity; and methane, ethane, and ethene.
[3]The metals analysis performed on this well was only for Chromium (EPA Method SW6010B) to support the Jacobs semi-annual monitoring.
[4]This monitoring well will be sampled for natural attenuation parameters to provide background conditions for comparison.

VOCs - Volatile organic compounds (EPA Method SW8260B)
Metals - Total metals plus mercury (EPA Methods SW6010B/SW7471A)

**Table 6.2**
**Monitoring Wells Selected for Current Regulatory Requirements for October 2000 Basewide Sampling[1]**

| Area | Monitoring Well | Sampling Parameters[2] |
|---|---|---|
| | | VOCS |
| AOC 4 Monitoring Wells | SPOT35-8 | X |
| | WCHMHTA008 | X |
| | WCHMHTA009 | X |
| | WHGLTA009 | X |
| | WHGLTA010 | X |
| | WHGLTA012 | X |
| | WHGLTA014 | X |
| SWMU 68 and AOC 7 Monitoring Wells | SD13-01 | X |
| | SD13-02 | X |
| | SD13-04 | X |
| | ST14-03 | X |
| | ST14-27 | X |
| | ST14-28 | X |
| | ST14-W11 | X |
| | ST14-W16 | X |
| | ST14-W21 | X |
| AOC 1 Monitoring Wells | BGSMW03 | X |
| | BGSMW05 | X |
| | BGSMW06 | X |
| | MW-5 | X |
| | MW-10 | X |
| | MW-11 | X |
| | SAV-2 | X |
| | WHGLTA036 | X |
| | WHGLTA037 | X |
| | WHGLTA038 | X |

Notes:

1 Additional monitoring wells, not listed in this table, might be sampled as part of ongoing RFI Investigations for the waste accumulation areas (WAAs) and various landfills.

2 Samples from all monitoring wells will also be tested for the following standard field parameters: temperature, pH, specific conductance, dissolved oxygen (DO), oxidation-reduction potential (Eh), and turbidity.

VOCs - Volatile organic compounds (EPA Method SW8260B)

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# TAB

Section 7.0

# 7.0 REFERENCES

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# TAB

Appendix A

# APPENDIX A.1

# MONITORING WELL INFORMATION

# July 2000 Well Gauging and Inspection



| WELL IDENTIFICATION | Previous Seal | Current Seal | DEPTH TO WATER (feet from TOC) | TOTAL DEPTH (feet from TOC) | DATE | TIME | MP HEIGHT ABOVE/ BELOW GROUND ELEVATION (Feet) | CASING DIAMETER (inches) | PID READINGS (ppm) | | WELL CONDITION | | | | | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | PID BZ | PID TOC | BUMPER POSTS | SECURITY BOX | ID PLATE | PAD CONDITION | BOLTS | MANHOLE COVER | MANHOLE GASKET | LOCKS | WELL CAP | SAMPLER ID | |
| 15B | lock | 0438816 | 9 02 | 12 41 | 7/18/00 | 0850 | +3 61 | 2 | 0 | 4.3 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| 17I | lock | 0438850 | 12.81 | 19.78 | 7/18/00 | 1303 | +2 60 | 2 | 0 | 5 1 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| 17J | lock | 0438849 | 13 23 | 21 08 | 7/18/00 | 1343 | +2 1 | 2 | 0 | 0 | none | ✓ | none | none | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| 17K | lock | 0438841 | 11 26 | 18 59 | 7/18/00 | 1300 | +1.14 | 2 | 0 | 5 4 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| 17L | lock | 0438844 | 12.35 | 20.91 | 7/18/00 | 1316 | +2 35 | 2 | 0 | 5.9 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| 17M | 0180719 | 0438836 | 10.69 | 17 78 | 7/18/00 | 1140 | +1 13 | 2 | 0 | 0.2 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| BGSMW01 | none | 0438810 | 8.19 | 23 11 | 7/17/00 | 1535 | -0 38 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| BGSMW02 | 0402370 | 0180739 | 12.36 | 20 99 | 7/17/00 | 1443 | -0 48 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| BGSMW03 | 0194375 | 0180740 | 11.58 | 21.21 | 7/17/00 | 1428 | -0.41 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| BGSMW04 | 0402365 | 0194485 | 12.94 | 23 5 | 7/17/00 | 1450 | -0 65 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| BGSMW05 | 0194439 | 0194460 | 6 85 | 12 57 | 7/17/00 | 1458 | -0.38 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| BGSMW06 | 0194440 | 0180723 | 11 39 | 16 98 | 7/17/00 | 1508 | -0 53 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| BGSMW07 | 0194167 | 0194486 | 9 19 | 18 01 | 7/17/00 | 1435 | -0 32 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| BSS-A | none | 0402355 | 5 29 | 10 28 | 7/17/00 | 1005 | -0 39 | 2 | 0 | 0 | NA | NA | none | none | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | No place for lock or custody seal |
| BUILDING1040-1 | 0402326 | 0438860 | 18.87 | 19.68 | 7/18/00 | 1420 | -0 47 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| CAR-RW07 | none | none | 27.70 | 33 61 | 7/20/00 | 1030 | -0 65 | 6 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| FT08-11A | 0180705 | 0438615 | 12.61 | 17.56 | 7/18/00 | 0900 | +3.27 | 2 | 0 | 0 | ✓ | ✓ | none | poor | NA | NA | NA | ✓ | ✓ | CW & JH | PVC well cap |
| FT08-11B | 0180702 | 0438618 | 12.12 | 16.97 | 7/18/00 | 0915 | +4 3 | 2 | 0 | 0 | ✓ | no hinge | none | none | NA | NA | NA | none | ✓ | CW & JH | PVC well cap |
| FT09-12A | lock | 0438622 | 18.04 | 27.85 | 7/18/00 | 1010 | +3.75 | 2 | 0 | 0 | loose | no hinge | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | Bumper post tipped, hinge broken, Dedicated bailer |
| FT09-12B | 0194065 | 0438627 | 33.76 | 37.63 | 7/18/00 | 1055 | +1.75 | 2 | 0 | 25 | ✓ | no hinge | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | PVC well cap |
| FT09-12C | 0481647 | 0438625 | 34 74 | 39.44 | 7/19/00 | 1000 | +2.35 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | |
| FT09-12D | lock | 0438628 | 33.44 | 36 99 | 7/18/00 | 1100 | +2.35 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | PVC well cap |
| FT09-12E | 0194325 | 0438629 | 34 07 | 38 58 | 7/18/00 | 1105 | +2 91 | 2 | 0 | 0 | ✓ | ✓ | none | poor | NA | NA | NA | ✓ | ✓ | CW & JH | PVC well cap |
| GMI-04-01M | lock | 0180788 | DRY | 19.98 | 7/17/00 | 1300 | +2.39 | 2 | 0 | 4 4 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | Bailer in well |
| GMI-22-02M | lock | 0438898 | 11.21 | -- | 7/19/00 | 0958 | -0.25 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | Dedicated pump |
| GMI-22-03M | lock | 0438806 | 21.05 | -- | 7/17/00 | 1630 | +2 59 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| GMI-22-04M | 01807371 | 0438716 | 20 47 | 25 27 | 7/19/00 | 1132 | +2.14 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| GMI-22-05M | lock | 0438820 | 11 66 | 13 77 | 7/17/00 | 1605 | +2 51 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| GMI-22-06M | 019486 | 0438807 | 18 95 | 26.55 | 7/17/00 | 1650 | +2 24 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| GMI-22-07M | lock | 0438712 | 16 86 | 23 29 | 7/17/00 | 1215 | +2.29 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump, Silty |
| GMI-22-08M | 0194487 | 0402351 | 17 82 | 22 46 | 7/17/00 | 1140 | +2 39 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| HM-110 | 0194035 | 0438649 | 27 92 | 35 37 | 7/19/00 | 0920 | -0.70 | 4 | 0 | 0 | NA | NA | ✓ | poor | ✓ | ✓ | ✓ | none | ✓ | CW & JH | Minimal Pad |
| HM-111 | none | none | 29 79 | 47 54 | 7/19/00 | 0915 | -0.35 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | Minimal Pad |
| HM-112 | lock | lock | 30 61 | 47 62 | 7/19/00 | 0930 | -0.65 | 4 | 0 | 54.7 | NA | NA | ✓ | none | NA | ✓ | ✓ | ✓ | ✓ | CW & JH | |
| HM-114 | none | 0194477 | 19 97 | 35 57 | 7/20/00 | 1130 | -0.35 | 4 | 0 | 2.6 | NA | NA | ✓ | none | NA | ✓ | ✓ | none | ✓ | NH & DLM | |
| HM-116 | 0194428 | 0438643 | 24.53 | 31.38 | 7/18/00 | 1700 | -0 6 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | NA | ✓ | ✓ | none | ✓ | CW & JH | |
| HM-117 | lock | lock | 23 49 | 38 5 | 7/18/00 | 1810 | -0 45 | 4 | 0 | 0 | NA | NA | ✓ | none | stripped | ✓ | ✓ | ✓ | ✓ | CW & JH | Lock frozen |
| HM-118 | lock | lock | 16.97 | 26 25 | 7/18/00 | 1740 | -0.3 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | Minimal Pad |
| HM-119 | lock | lock | 15.07 | 28 69 | 7/18/00 | 1800 | -0 4 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | stripped | ✓ | ✓ | ✓ | ✓ | CW & JH | Minimal Pad |
| HM-120 | lock | 0438792 | 6 84 | 17 71 | 7/19/00 | 1434 | -4.70 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| HM-121 | lock | lock | 19.35 | 30.3 | 7/19/00 | 1620 | -0 3 | 4 | 0 | 0 | NA | NA | ✓ | none | stripped | ✓ | ✓ | ✓ | ✓ | CW & JH | |
| HM-123 | 0180761 | 0438636 | 28 9 | 38 38 | 7/18/00 | 1445 | -0 4 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | none | none | ✓ | CW & JH | Dedicated pump |
| HM-124 | lock | lock | 15.98 | 24.27 | 7/19/00 | 1200 | -0 4 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | Minimal Pad |
| HM-125 | 0194056 | 0438771 | 20.15 | 33 02 | 7/19/00 | 1535 | -0 27 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |

# July 2000 Well Gauging and Inspection

| WELL IDENTIFICATION | Previous Seal | Current Seal | DEPTH TO WATER (feet from TOC) | TOTAL DEPTH (feet from TOC) | DATE | TIME | MP HEIGHT ABOVE/ BELOW GROUND ELEVATION (Feet) | CASING DIAMETER (inches) | PID READINGS (ppm) | | WELL CONDITION | | | | | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | PID BZ | PID TOC | BUMPER POSTS | SECURITY BOX | ID PLATE | PAD CONDITION | BOLTS | MANHOLE COVER | MANHOLE GASKET | LOCKS | WELL CAP | SAMPLER ID | |
| HM-126 | none | none | 16.56 | 35.82 | 7/20/00 | 0930 | -0.65 | 4 | 0 | 0 | NA | NA | none | none | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| HM-127 | none | none | 27.07 | 37 64 | 7/18/00 | 1555 | -0 5 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | stripped | ✓ | none | none | ✓ | CW & JH | |
| ITMW-01T | none | none | 14 43 | 21.63 | 7/17/00 | 1610 | -0 24 | 4 | 0 | 2 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | PVC well cap |
| LF01-1B | none | 0438865 | 15 16 | 19.65 | 7/18/00 | 1600 | -0.36 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | NH & DLM | |
| LF01-1D | 0194382 | 0438829 | 19.79 | 28 08 | 7/18/00 | 0930 | +3 03 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | none | ✓ | NH & DLM | Dedicated pump |
| LF01-1E | 0194438 | 0438659 | 18 14 | 32.01 | 7/19/00 | 1406 | +2 14 | 2 | 0 | 5 1 | fallen | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF01-1F | 0194432 | 0438660 | 18 59 | 32.47 | 7/19/00 | 1414 | +2 38 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF03-3D | 0180751 | 0438638 | 12 83 | 17.73 | 7/18/00 | 1520 | +1 95 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF04-01 | lock | 0438621 | 34 00 | 41.34 | 7/18/00 | 1000 | +2 47 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF04-02 | 0194420 | 0180783 | 31.94 | 38.11 | 7/17/00 | 1028 | +2.19 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF04-10 | 0194311 | 0438648 | 35 35 | 48.25 | 7/19/00 | 0925 | -0 4 | 2 | 0 | 0 | NA | NA | none | ✓ | stripped | ✓ | ✓ | | ✓ | CW & JH | Dedicated pump |
| LF04-4A | lock | 0180787 | 14.76 | 24 94 | 7/17/00 | 1134 | +1 25 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | Dedicated pump |
| LF04-4B | lock | 0180786 | 20 20 | 25.21 | 7/17/00 | 1128 | +1 25 | 2 | 0 | 2 2 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | PVC well cap |
| LF04-4C | lock | 0180785 | 21.55 | 27 69 | 7/17/00 | 1110 | +2 05 | 2 | 0 | 2 4 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | Dedicated pump |
| LF04-4D | lock | 0180777 | 23 41 | 27 74 | 7/17/00 | 1055 | +2 11 | 2 | 0 | 5 4 | ✓ | ✓ | none | poor | NA | NA | NA | ✓ | ✓ | CW & JH | PVC well cap |
| LF04-4E | lock | 0180778 | 26 89 | 30 48 | 7/17/00 | 1050 | +0 95 | 2 | 0 | 0 | ✓ | hinge broken | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | Bailer in well; PVC well cap |
| LF04-4F | lock | 0438672 | 32.50 | 36 94 | 7/20/00 | 1000 | +2.10 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF04-4G | lock | 0438673 | 29.00 | 32 57 | 7/20/00 | 1020 | +2 24 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF05-01 | lock | 0438641 | 20.70 | 27 50 | 7/18/00 | 1615 | +2.37 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | | CW & JH | Dedicated pump |
| LF05-02 | lock | 0438634 | 26.29 | 28.47 | 7/18/00 | 1415 | +2.4 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF05-18 | 0194310 | 0180797 | 20.86 | 23 50 | 7/17/00 | 1445 | -0.3 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | Lock frozen |
| LF05-19 | none | 0180798 | 16 67 | 19 92 | 7/17/00 | 1318 | -0 34 | 2 | 0 | 14 4 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| LF05-5A | 0194371 | 0438609 | 27 81 | 30 35 | 7/18/00 | 0950 | +3 78 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF05-5B | 0194385 | 0180779 | 7 0 | 12 44 | 7/17/00 | 0935 | +3 04 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | |
| LF05-5C | 0194380 | 0438631 | 14.2 | 21 15 | 7/18/00 | 1350 | +1.73 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | PVC well cap |
| LF05-5D | 0194368 | 0438608 | 15 58 | 20 94 | 7/18/00 | 0940 | +1.5 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | none | ✓ | CW & JH | |
| LF05-5E | 0194302 | 0438610 | 31.59 | 35 5 | 7/18/00 | 0955 | +2 44 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | Casing is cracked |
| LF05-5G | lock | 0438647 | 23 77 | 30.92 | 7/19/00 | 0800 | +2 63 | | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | Dedicated pump |
| LF05-5H | lock | 0180782 | DRY | 16.56 | 7/17/00 | 0955 | +2 17 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | CW & JH | PVC well cap |
| LSA1628-1 | 0180712 | 04022353 | 10.86 | 19.48 | 7/17/00 | 1020 | -0 46 | 4 | 0 | 565 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Casing is uneven |
| LSA1628-14 | 0194257 | 0402357 | 11 38 | 16.02 | 7/17/00 | 1032 | -0 25 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| LSA1628-15 | 0194152 | 0402356 | 11 11 | 17.01 | 7/17/00 | 1025 | -0 35 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| LSA1628-2 | none | 0438718 | 11 29 | 19 08 | 7/19/00 | 1152 | -0 73 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Red ants in well |
| LSA1628-3 | none | 0438719 | 11.02 | 17 96 | 7/19/00 | 1150 | -0.49 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| MW-10 | 0194499 | 0194458 | 14.83 | 33 73 | 7/17/00 | 0906 | -0.21 | 4 | 0 | 0 | NA | NA | none | ✓ | replace | replace | replace | none | ✓ | NH & DLM | |
| MW-11 | 0194397 | 0180727 | 27.21 | 33.73 | 7/17/00 | 0903 | -0 25 | 4 | 0 | 0 | NA | NA | none | repair | replace | replace | replace | none | ✓ | NH & DLM | Black widow in well casing |
| MW-11A | 0402323 | 0438899 | 23.32 | 27 19 | 7/19/00 | 0948 | -0 17 | 4 | 0 | 115 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| MW-12 | none | 0180729 | 10 26 | 27 38 | 7/17/00 | 0928 | -0 13 | 4 | 0 | 0 | NA | NA | ✓ | ✓ | replace | replace | replace | none | ✓ | NH & DLM | Heavily damaged |
| MW-19 | 0481699 | 0438655 | 18.53 | 19.6 | 7/19/00 | 1145 | -0 65 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| MW-2 | lock | 0180726 | 12 04 | 49 15 | 7/17/00 | 0920 | -0.35 | 4 | 0 | 0 | NA | NA | none | repair | replace | replace | replace | ✓ | ✓ | NH & DLM | Heavily damaged |
| MW-3 | 0194168 | 0180724 | 12 03 | 22.15 | 7/17/00 | 1422 | -0 36 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| MW-36 | 0194165 | 0438802 | 5.05 | 20 16 | 7/17/00 | 1611 | -0.24 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| MW-37 | 0194166 | 0438804 | 9.04 | 20 29 | 7/17/00 | 1606 | -0.34 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| MW-38 | 0194255 | 0438885 | 16.51 | 18 95 | 7/19/00 | 0900 | -0.26 | 4 | 0 | 4 9 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |

# July 2000 Well Gauging and Inspection



| WELL IDENTIFICATION | Previous Seal | Current Seal | DEPTH TO WATER (feet from TOC) | TOTAL DEPTH (feet from TOC) | DATE | TIME | MP HEIGHT ABOVE/ BELOW GROUND ELEVATION (Feet) | CASING DIAMETER (inches) | PID READINGS (ppm) | | WELL CONDITION | | | | | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | PID BZ | PID TOC | BUMPER POSTS | SECURITY BOX | ID PLATE | PAD CONDITION | BOLTS | MANHOLE COVER | MANHOLE GASKET | LOCKS | WELL CAP | SAMPLER ID | |
| MW-39 | 0194254 | 0438886 | 16 38 | 18.96 | 7/19/00 | 0855 | -0.33 | 4 | 0 | 436 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| MW-40 | 0194155 | 0438889 | 16 72 | 19.82 | 7/19/00 | 0850 | -0.2 | 4 | 0 | 9.7 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| MW-41 | 0194158 | 0438882 | 16.95 | 20.24 | 7/19/00 | 0906 | -0 39 | 4 | 0 | 750 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | ABONDONDED IN 2000 |
| MW-42 | none | 0438887 | 16.78 | 19.49 | 7/19/00 | 0902 | -0 34 | 4 | 0 | 427 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| MW-5 | 0194383 | 0194491 | 4 92 | 8 15 | 7/17/00 | 0947 | +2 34 | 4 | 0 | 0 | none | ✓ | none | ✓ | NA | NA | NA | none | ✓ | NH & DLM | |
| MW-50 | none | 0438795 | 11 04 | 14.31 | 7/19/00 | 1415 | -0 25 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| MW-51 | lock | 0438796 | 11 11 | 15.08 | 7/19/00 | 1410 | -0 2 | 4 | 0 | 0 | NA | NA | none | repair | replace | replace | replace | ✓ | ✓ | NH & DLM | |
| MW-52 | none | 0438658 | 19.38 | 19.55 | 7/19/00 | 1240 | -0.2 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| MW-53 | 0180732 | 0438657 | 16 78 | 19.44 | 7/19/00 | 1230 | -0 65 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| MW-56 | 0481683 | 0498679 | 8.09 | 19.65 | 7/20/00 | 1645 | -0 34 | 2 | 0 | 0 | NA | NA | none | repair | replace | replace | replace | none | ✓ | CW & JH | Silty |
| MW-57 | none | 0438778 | 12.36 | 14.28 | 7/19/00 | 1607 | -0 39 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| MW-6 | lock | 0402354 | 2 44 | 5 96 | 7/17/00 | 0958 | -0.47 | 4 | 0 | 288 | NA | NA | none | ✓ | stripped | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| MW-7 | 0194147 | 0194492 | 8.74 | 17 16 | 7/17/00 | 0952 | -0.13 | 4 | 0 | 0 | NA | NA | none | ✓ | replace | replace | replace | none | ✓ | NH & DLM | Well cover and security casing destroyed |
| MW-8 | 0194119 | 0180728 | 8 26 | 27 29 | 7/17/00 | 0910 | -0 25 | 4 | 0 | 0 | NA | NA | none | ✓ | replace | replace | replace | none | ✓ | NH & DLM | Well cover and security casing destroyed |
| MW-9 | 0194141 | 0194496 | 10 98 | 28.77 | 7/17/00 | 0924 | -0.46 | 4 | 0 | 0 | NA | NA | none | ✓ | replace | replace | replace | none | ✓ | NH & DLM | Well cover and security casing destroyed |
| MWMTAC-001 | lock | 0438607 | 35.20 | 43.77 | 7/17/00 | 1654 | -0 3 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | frozen | ✓ | CW & JH | |
| OT-15C | 0194111 & 8 | 0438814 & 5 | 8.88 | 15.49 | 7/18/00 | 0822 | +3.38 | 2 | 0 | 5.6 | ✓ | ✓ | none | none | NA | NA | NA | none | ✓ | NH & DLM | |
| SAV-1 | 0194142 | 0180742 | 12.45 | 19.62 | 7/17/00 | 0938 | -0 25 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | TOC Damaged |
| SAV-2 | none | 0180741 | 12.10 | 18.93 | 7/17/00 | 0934 | -0.47 | 4 | 0 | 0.4 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | TOC Damaged |
| SD13-01 | 0194351 | 0438825 | 12 73 | 17.39 | 7/18/00 | 0908 | +2 76 | 2 | 0 | 40 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| SD13-02 | lock | 0438824 | 13 37 | 16.38 | 7/18/00 | 0913 | +2.49 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| SD13-03 | lock | 0438830 | 11 15 | 16.73 | 7/18/00 | 0905 | +2 65 | 2 | 0 | 4 2 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| SD13-04 | 0180711 | 0438817 | 9.92 | 13.22 | 7/18/00 | 0901 | +2.25 | 2 | 0 | 172 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| SD13-05 | 0402362 | 0438862 | 9 45 | 13 52 | 7/18/00 | 1543 | -0.22 | 4 | 0 | 0 | ✓ | ✓ | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| SD13-06 | lock | 0438813 | 11 77 | 14 34 | 7/18/00 | 0815 | +1 95 | 4 | 0 | 6 3 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| SD13-07 | 0180718 | 0438812 | 18.69 | 22 44 | 7/18/00 | 0808 | +1.67 | 4 | 0 | 189 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| SPOT35-1 | 0194102 | 0438892 | 23.29 | 26.19 | 7/19/00 | 1035 | -0 3 | 2 | 0 | 396 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| SPOT35-3 | 0180713 | 0438896 | 20 96 | 23.81 | 7/19/00 | 1028 | -0 56 | 2 | 0 | 184 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| SPOT35-4 | 0194101 | 0438895 | 21 55 | 24 67 | 7/19/00 | 1040 | -0 6 | 2 | 0 | 89.5 | NA | NA | none | ✓ | stripped | ✓ | ✓ | none | ✓ | NH & DLM | |
| SPOT35-5 | 0180736 | 0438900 | 22 93 | 29 70 | 7/19/00 | 0937 | -0 12 | 4 | 0 | 12.1 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| SPOT35-6 | 0180716 | 0438891 | 24.06 | 29 01 | 7/19/00 | 0920 | -0 41 | 4 | 0 | 88 6 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| SPOT35-7 | 0402329 | 0438714 | 8.47 | 20 51 | 7/19/00 | 1102 | -0 3 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| SPOT35-8 | 0194425 | 0438894 | 23.39 | 27.38 | 7/19/00 | 1052 | -0.21 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| SPOT35-9 | 0402324 | 0438720 | 23.08 | 28 60 | 7/19/00 | 1058 | -0 32 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-01 | 0402327 | 0402316 | 14.03 | 18 31 | 7/18/00 | 1025 | +2 45 | 2 | 0 | 6 9 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| ST14-02 | 0194180 | 0402318 | 12 75 | 19 51 | 7/18/00 | 1020 | +1 82 | 2 | 0 | 355 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| ST14-03 | lock | 0438839 | 10 87 | 19 78 | 7/18/00 | 1135 | +2 38 | 2 | 0 | 39 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| ST14-04 | 0481646 | 0438840 | 13.03 | 19 22 | 7/18/00 | 1030 | +2.43 | 2 | 0 | 5.3 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | Dedicated pump |
| ST14-24 | none | 0438870 | 11 33 | 16.89 | 7/18/00 | 1510 | -0.8 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| ST14-25 | none | 0438875 | 6.48 | 16 63 | 7/19/00 | 0740 | -0.63 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| ST14-27 | 0194500 | 0438835 | 9 42 | 17 76 | 7/18/00 | 1125 | -0 66 | 2 | 0 | 0.2 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-28 | 0194430 | 0402315 | 12 05 | 16 95 | 7/18/00 | 1015 | -0 38 | 2 | 0 | 234 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-29 | 0194192 | 0438818 | 9 97 | 15.57 | 7/18/00 | 1000 | -0 45 | 2 | 0 | 234 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| ST14-30 | 0194130 | 0402320 | 6.36 | 13.94 | 7/18/00 | 1005 | -0 5 | 2 | 0 | 6.4 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |

# July 2000 Well Gauging and Inspection



| WELL IDENTIFICATION | Previous Seal | Current Seal | DEPTH TO WATER (feet from TOC) | TOTAL DEPTH (feet from TOC) | DATE | TIME | MP HEIGHT ABOVE/ BELOW GROUND ELEVATION (Feet) | CASING DIAMETER (inches) | PID READINGS (ppm) | | WELL CONDITION | | | | | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | PID BZ | PID TOC | BUMPER POSTS | SECURITY BOX | ID PLATE | PAD CONDITION | BOLTS | MANHOLE COVER | MANHOLE GASKET | LOCKS | WELL CAP | SAMPLER ID | |
| ST14-W05 | none | 0438856 | 9.02 | 16 24 | 7/18/00 | 1505 | -0 57 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| ST14-W06 | 0194150 | 0438855 | 12 51 | 22.65 | 7/18/00 | 1456 | -0 57 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| ST14-W07 | 0194149 | 0438854 | 13 78 | 24.6 | 7/18/00 | 1452 | -0 46 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W08 | 0194087 | 0438868 | 11 79 | 24 89 | 7/18/00 | 1530 | -0.8 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W09 | 0194145 | 0438853 | 9 87 | 20 13 | 7/18/00 | 1445 | -0.5 | 2 | 0 | 0 7 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W10 | 0194163 | 0438842 | 8 21 | 19 53 | 7/18/00 | 1338 | -0.42 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W11 | 0194355 | 0438848 | 9 01 | 17 53 | 7/18/00 | 1348 | -0 65 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W12 | 0194139 | 0438843 | 7 61 | 17 63 | 7/18/00 | 1320 | -0.64 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W13 | none | 0438845 | 10.18 | 17 08 | 7/18/00 | 1310 | -0.17 | 2 | 0 | 4.9 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W15 | 0194058 | 0438847 | 11.06 | 18 65 | 7/18/00 | 1355 | -0.59 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W16 | none | 0438832 | 8.86 | 19 04 | 7/18/00 | 1055 | -0.75 | 2 | 0 | 550 | NA | NA | ✓ | none | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| ST14-W18 | 0194175 | 0402319 | 9.46 | 17 43 | 7/18/00 | 1104 | -0 33 | 2 | 0 | 232 | NA | NA | none | none | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| ST14-W19 | 0194081 | 0438834 | 10 23 | 16.59 | 7/18/00 | 1111 | -0 85 | 2 | 0 | 81 9 | NA | NA | none | none | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W20 | 0194038 | 0438833 | 9 71 | 15.80 | 7/18/00 | 1120 | -0.52 | 2 | 0 | 8 8 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W21 | 0194356 | 0402317 | 10 82 | 17 53 | 7/18/00 | 1030 | -0 33 | 2 | 0 | 29 3 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| ST14-W22 | 0402361 | 0438823 | 10 51 | 10 85 | 7/18/00 | 0925 | -0 45 | 2 | 0 | 7.9 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| ST14-W23 | lock | 0438838 | 7 46 | 9 95 | 7/18/00 | 1245 | -0 48 | 2 | 0 | 6.6 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | none | NH & DLM | |
| ST14-W31 | none | 0438821 | 10 85 | 13.77 | 7/18/00 | 0918 | -0 55 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| ST14-W32 | 0194176 | 0438827 | 5.03 | 12.12 | 7/18/00 | 0955 | +2 58 | 2 | 0 | 13.2 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| USGS03T | lock | lock | 4 62 | 8 6 | 7/19/00 | 1540 | -0 2 | 2 | 0 | 0 | NA | NA | none | none | frozen | ✓ | ✓ | frozen | ✓ | CW & JH | Outer casing broken |
| USGS05P | 0402366 | 0180738 | 40.67 | 91.98 | 7/17/00 | 1416 | -0.43 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| USGS06P | 0194050 | 0438656 | 59.58 | 73 97 | 7/19/00 | 1125 | -0.45 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| USGS06T | lock | 0438655 | -- | -- | 7/19/00 | 1120 | -0.48 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | Jacobs well with dedicated pump; not gauged |
| USGS07P | 0164063 | 0438623 | 87 65 | 140 5 | 7/18/00 | 1025 | -0.55 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | none | none | ✓ | CW & JH | |
| USGS07T | 0194488 | 0438624 | 11.89 | 15 18 | 7/18/00 | 1030 | -0 2 | 2 | 0 | 0 | NA | NA | none | poor | ✓ | ✓ | none | none | ✓ | CW & JH | Dedicated pump |
| W-153 | 0180792 | 0438642 | 22 43 | 39 25 | 7/18/00 | 1645 | -0 4 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | none | none | ✓ | CW & JH | Dedicated pump |
| WCHMHTA001 | lock | 0438678 | 29.88 | 46.83 | 7/20/00 | 1630 | -0 45 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | Silty |
| WCHMHTA002 | lock | 0438644 | 22.45 | 42.25 | 7/18/00 | 1710 | -0 55 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | |
| WCHMHTA003 | lock | 0438646 | 22 43 | 28 58 | 7/18/00 | 1715 | -0.65 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | |
| WCHMHTA004 | lock | 0438645 | 22 64 | 37 72 | 7/18/00 | 1720 | -0 5 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | Lock frozen |
| WCHMHTA005 | lock | 0438773 | 18 91 | 26.75 | 7/19/00 | 1523 | -0.43 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WCHMHTA006 | lock | 0438772 | 18 75 | 36 51 | 7/19/00 | 1526 | -0 44 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WCHMHTA007 | 0481692 | 0438669 | 16 19 | 32.35 | 7/19/00 | 1600 | -0 3 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WCHMHTA008 | 0194431 | 0438798 | 15 40 | 24.52 | 7/19/00 | 1350 | -0 37 | 2 | 0 | 62 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | Silty |
| WCHMHTA009 | 0194451 | 0438799 | 8 18 | 11 68 | 7/19/00 | 1342 | -0 24 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WCHMHTA010 | none | 0438800 | 7.17 | 24.50 | 7/19/00 | 1335 | -0 4 | 2 | 0 | 9 9 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WCHMHTA011 | none | 0438711 | 13.44 | 22 20 | 7/17/00 | 1330 | -0.52 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| WCHMHTA012 | lock | 0438675 | 14 67 | 18 99 | 7/20/00 | 1515 | -0.40 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | Difficult to find, in small grassy area |
| WCHMHTA013 | none | 0194436 | 17 25 | 19 01 | 7/17/00 | 1350 | -0.46 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WCHMHTA014 | none | 0438794 | 8 45 | 11 84 | 7/19/00 | 14 45 | -0 27 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WHGLRW015 | 0180772 | none | 15 7 | 18 33 | 7/17/00 | 1515 | -0.65 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | Dedicated pump, PVC well cap |
| WHGLRW016 | 0194054 | 0438603 | 14.48 | 22.64 | 7/17/00 | 1558 | -0.62 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLRW017 | 0180780 | 0438604 | 16 6 | 23.98 | 7/17/00 | 1615 | -0 4 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | frozen | ✓ | CW & JH | |
| WHGLRW018 | 0402399 | 0438602 | 18 71 | 27.23 | 7/17/00 | 1550 | -0 18 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |

# July 2000 Well Gauging and Inspection

| WELL IDENTIFICATION | Previous Seal | Current Seal | DEPTH TO WATER (feet from TOC) | TOTAL DEPTH (feet from TOC) | DATE | TIME | MP HEIGHT ABOVE/ BELOW GROUND ELEVATION (Feet) | CASING DIAMETER (inches) | PID READINGS (ppm) | | WELL CONDITION | | | | | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | PID BZ | PID TOC | BUMPER POSTS | SECURITY BOX | ID PLATE | PAD CONDITION | BOLTS | MANHOLE COVER | MANHOLE GASKET | LOCKS | WELL CAP | SAMPLER ID | |
| WHGLRW019 | 0402342 | 0180799 | 15 87 | 23 71 | 7/17/00 | 1522 | -0 18 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA002 | 0194396 | 0180781 | 14 67 | 19 97 | 7/17/00 | 0743 | -0.27 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | none | frozen | ✓ | CW & JH | Silty |
| WHGLTA003 | none | 0180800 | 23 64 | 29.50 | 7/17/00 | 1440 | -0 25 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | none | none | ✓ | CW & JH | Dedicated pump |
| WHGLTA004 | 0194269 | 0438651 | 18 73 | 33 52 | 7/17/00 | 0840 | -0.2 | 2 | 5 5 | 0 | NA | NA | none | ✓ | ✓ | ✓ | none | none | ✓ | CW & JH | Dedicated pump |
| WHGLTA005 | 040203 | 0438811 | 11 97 | 15 19 | 7/18/00 | 0758 | +2.68 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | NH & DLM | Dedicated pump; No place for lock |
| WHGLTA007 | 0180717 | 0438819 | 15 53 | 30 39 | 7/18/00 | 0750 | -0 46 | 2 | 0 | 209 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| WHGLTA008 | 0194173 | 0438831 | 7 38 | 15 22 | 7/18/00 | 1046 | -0 41 | 2 | 0 | 420 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| WHGLTA009 | 0194481 | 0438884 | 23 87 | 27.94 | 7/19/00 | 0930 | +2.57 | 2 | 0 | 3.3 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | NH & DLM | |
| WHGLTA010 | 0194423 | 0438893 | 26 69 | 30 28 | 7/19/00 | 1008 | +2.09 | 2 | 0 | 1.5 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | NH & DLM | |
| WHGLTA011 | 0180743 | 0438797 | 12 06 | 17 82 | 7/19/00 | 1355 | +1 8 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | NH & DLM | Dedicated pump |
| WHGLTA012 | 0194471 | 0438888 | 18 75 | 23.58 | 7/19/00 | 0920 | -0 58 | 2 | 0 | 38 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WHGLTA013 | 0194107 | 0438897 | 22 80 | 25 87 | 7/19/00 | 1015 | -0 45 | 2 | 0 | 34 4 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WHGLTA014 | 0194424 | 0438883 | 21.32 | 25.56 | 7/19/00 | 0914 | -0.21 | 2 | 0 | 5.7 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WHGLTA020 | 0402397 | 0438679 | 12 10 | 14 85 | 7/18/00 | 1700 | -0.35 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA022 | 0402397 | 0180789 | 23 9 | 32 65 | 7/17/00 | 1415 | -0.25 | 2 | 0 | 5 7 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WGHLTA023 | 0402334 | 0438601 | 18.38 | 28 64 | 7/17/00 | 1540 | -0 35 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WGHLTA025 | 0180793 | 0180791 | 16 73 | 21 26 | 7/17/00 | 0836 | -0.25 | 2 | 0 | 0 6 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | Dedicated pump; Silty |
| WGHLTA026 | 0194253 | 0438774 | 21 06 | 27 48 | 7/19/00 | 1600 | -0.51 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WGHLTA027 | 0194252 | 0438775 | 20.95 | 26 40 | 7/19/00 | 1603 | -0 29 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WGHLTA028 | none | 0438780 | 14 29 | 18.63 | 7/19/00 | 1635 | -0.32 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WGHLTA030 | none | 0438872 | 3 17 | 14 06 | 7/19/00 | 0753 | -0 49 | 2 | 0 | 1.2 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| WGHLTA031 | none | 0180771 | 6.89 | 11.05 | 7/21/00 | 1000 | -0.47 | 2 | 0 | 8.2 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | Silty |
| WGHLTA033 | none | 0438890 | 12.62 | 27 37 | 7/19/00 | 0803 | -0 46 | 2 | 0 | 2 7 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WGHLTA034 | 0194478 | 0438822 | 9 71 | 14.55 | 7/18/00 | 0938 | -0 67 | 2 | 0 | 6 5 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WGHLTA035 | 0194497 | 0438826 | 9.81 | 14 51 | 7/18/00 | 0943 | -0 37 | 2 | 0 | 9 3 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WGHLTA036 | 0194461 | 0438668 | 10.36 | 23.5 | 7/19/00 | 1520 | -0 5 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WGHLTA037 | 0194402 | 0438667 | 15.47 | 23 2 | 7/19/00 | 1515 | -0.35 | 4 | 0 | 1220 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WGHLTA038 | none | 0438666 | DRY | 25.46 | 7/19/00 | 1510 | -0.24 | 4 | 0 | 1461 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WGHLTA039 | none | 0438873 | 20 41 | 25.4 | 7/19/00 | 0756 | -0 53 | 2 | 0 | 1.6 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WHGLTA101 | 0194092 | 0438665 | 16 16 | 34.67 | 7/19/00 | 1455 | -0.40 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA102 | 0194093 | 0438661 | 16 36 | 37 37 | 7/19/00 | 1420 | -0 4 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA103 | 0194096 | 0438662 | 23.48 | 45 53 | 7/19/00 | 1425 | -0 40 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA104 | 0402332 | 0438664 | 31 12 | 45 43 | 7/19/00 | 1445 | -0 4 | 4 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA201 | 0194059 | 0438861 | 18 69 | 22 09 | 7/18/00 | 1408 | -0 33 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WHGLTA202 | 0194048 | 0438852 | 18.90 | 21 73 | 7/18/00 | 1415 | -0 25 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| WHGLTA203 | 0194360 | 0438846 | 16.26 | 17 61 | 7/18/00 | 1403 | -0 28 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Dedicated pump |
| WHGLTA204 | 0194077 | 0438654 | 17 99 | 25 30 | 7/19/00 | 1107 | -0 65 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA302 | 0481969 | 0438640 | 14 98 | 22 67 | 7/18/00 | 1605 | +2 73 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | CW & JH | |
| WHGLTA303 | 0194373 | 0438639 | 22 30 | 22.35 | 7/18/00 | 1600 | +2 75 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | none | ✓ | CW & JH | |
| WHGLTA601 | 0180795 | 0438877 | 14 64 | 18.25 | 7/18/00 | 1650 | -0 2 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WHGLTA602 | 0194075 | 0438874 | 15 35 | 18.54 | 7/18/00 | 1705 | -0 26 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WHGLTA603 | 0194076 | 0438876 | 16.64 | 20 08 | 7/18/00 | 1658 | +2 13 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | NH & DLM | No place for lock |
| WHGLTA604 | 0194078 | 0438652 | 19 5 | 23 97 | 7/19/00 | 1030 | -0.30 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA701 | 0194398 | 0438637 | 26 84 | 34 85 | 7/18/00 | 1455 | -0 25 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |

# July 2000 Well Gauging and Inspection

| WELL IDENTIFICATION | Previous Seal | Current Seal | DEPTH TO WATER (feet from TOC) | TOTAL DEPTH (feet from TOC) | DATE | TIME | MP HEIGHT ABOVE/ BELOW GROUND ELEVATION (Feet) | CASING DIAMETER (inches) | PID READINGS (ppm) | | WELL CONDITION | | | | | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | PID BZ | PID TOC | BUMPER POSTS | SECURITY BOX | ID PLATE | PAD CONDITION | BOLTS | MANHOLE COVER | MANHOLE GASKET | LOCKS | WELL CAP | SAMPLER ID | |
| WHGLTA702 | 0180703 | 0438619 | 13 98 | 21 58 | 7/18/00 | 0925 | +3.09 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | CW & JH | |
| WHGLTA703 | 0194378 | 0438620 | 19.32 | 28 03 | 7/19/00 | 0935 | +2.45 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | CW & JH | |
| WHGLTA704 | 0180773 | 0438616 | 12.59 | 22 10 | 7/18/00 | 0910 | +2 91 | 2 | 0 | 0 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | CW & JH | |
| WHGLTA705 | 0180753 | 0438632 | 5 71 | 10.69 | 7/18/00 | 1400 | -0 53 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | none | none | ✓ | CW & JH | |
| WHGLTA706 | 0180752 | 0438633 | 13 69 | 17.96 | 7/18/00 | 1405 | -0 50 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA801 | 0194268 | 0438612 | 9.12 | 13 84 | 7/18/00 | 0820 | -0.35 | 2 | 0 | 14 4 | ✓ | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA803 | 0194265 | 0438613 | 8 55 | 12 32 | 7/18/00 | 0831 | -0 3 | 2 | 0 | 0 | ✓ | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WHGLTA901 | 0194448 | 0180735 | 9 94 | 22 18 | 7/17/00 | 0852 | +1 9 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| WHGLTA902 | 0194450 | 0180745 | 17 35 | 23.88 | 7/17/00 | 0838 | +3.0 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| WHGLTA903 | 0194388 | 0180747 | 26.77 | 43 77 | 7/17/00 | 0830 | +2 73 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| WHGLTA904 | 0194446 | 0180748 | 28.19 | 37 26 | 7/17/00 | 0820 | -- | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| WHGLTA905 | 0194393 | 0194495 | 19 60 | 30.21 | 7/17/00 | 0848 | 2.81 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| WHGLTA952 | 0402306 | 0180744 | 26 19 | 57.64 | 7/17/00 | 0840 | +2 98 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| WHGLTA953 | 0194452 | 0180746 | 26 85 | 57 93 | 7/17/00 | 0832 | +2 58 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| WHGLTA954 | 0194457 | 0180749 | 29.31 | 57 78 | 7/17/00 | 0823 | 2 66 | 2 | 0 | 0 | ✓ | ✓ | ✓ | ✓ | NA | NA | NA | ✓ | ✓ | NH & DLM | |
| WITCTA002 | lock | 0438791 | 4.17 | 7 40 | 7/19/00 | 14.12 | -0.27 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | Silty |
| WITCTA003 | none | 0438793 | 14.89 | 23 53 | 7/19/00 | 1500 | -0.38 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA004 | 0180733 | 0438717 | 14 03 | 18 49 | 7/19/00 | 1325 | -0 26 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA005 | lock | 0438715 | 13.25 | 18 87 | 7/19/00 | 1120 | -0 31 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA006 | none | 0438713 | 13.38 | 18.43 | 7/19/00 | 1123 | -0.34 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA007 | 0402322 | 0402359 | 15 16 | 22.49 | 7/17/00 | 1158 | -0 28 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA008 | lock | 0402358 | 9 21 | 14.21 | 7/17/00 | 1045 | -0 37 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA009 | lock | 0402360 | 6.92 | 12 71 | 7/17/00 | 1052 | -0.45 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA010 | 0180721 | 0180722 | 15 30 | 18.47 | 7/17/00 | 1210 | -0.31 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA011 | lock | 0402352 | 17 67 | 23 65 | 7/17/00 | 1110 | -0.25 | 2 | 0 | 0 | NA | NA | ✓ | poor | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA012 | none | 0438677 | 10.84 | 16 92 | 7/20/00 | 1440 | -0 53 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WITCTA013 | lock | 0438776 | 15 69 | 21.15 | 7/19/00 | 1645 | -0.46 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | Dedicated pump |
| WITCTA014 | lock | 0438779 | 21.26 | 24.34 | 7/19/00 | 1625 | -0.23 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA015 | none | 0438801 | 18.43 | 25.60 | 7/17/00 | 16 35 | -0 47 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA016 | lock | 0438881 | 19 14 | -- | 7/19/00 | 0840 | -0 45 | 2 | 0 | 0.1 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | Dedicated pump |
| WITCTA017 | 0180725 | 0438777 | 9 36 | 13 51 | 7/17/00 | 1700 | -0 21 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA019 | lock | 0438857 | 15.25 | 19 34 | 7/18/00 | 1433 | -0 31 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA020 | lock | lock | 22 32 | 25.51 | 7/19/00 | 1215 | -0.43 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | none | ✓ | ✓ | CW & JH | |
| WITCTA021 | none | 0438858 | 15.87 | 24.00 | 7/18/00 | 1430 | -0.55 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA022 | none | 0438859 | 17 72 | 23 43 | 7/18/00 | 1426 | -0 72 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA024 | 0180731 | 0438790 | 17.32 | 23 34 | 7/17/00 | 1619 | -0 38 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA025 | lock | 0194387 | 10 94 | 12.30 | 7/17/00 | 1400 | -0 27 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA026 | lock | 0194494 | 5 71 | 9.50 | 7/17/00 | 1410 | -0 42 | 2 | 0 | 0 | NA | NA | ✓ | poor | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA027 | lock | 0194493 | 11 72 | 22 93 | 7/17/00 | 1405 | -0 65 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA028 | 0402363 | 0194459 | 10 89 | 14.81 | 7/17/00 | 1515 | -0 67 | 2 | 0 | 0 | NA | NA | ✓ | poor | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA031 | lock | 0438802 | 4 46 | 6 85 | 7/17/00 | 1555 | -0.29 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | |
| WITCTA032 | lock | 0438869 | 7.39 | 12 64 | 7/18/00 | 1521 | -0 34 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| WITCTA033 | lock | 0438837 | 9.60 | 13 79 | 7/18/00 | 1145 | -0.43 | 2 | 0 | 0 2 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | NH & DLM | Silty |
| WITCTA034 | none | 0438863 | 9.04 | 13 04 | 7/18/00 | 1550 | -0.54 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |

# July 2000 Well Gauging and Inspection

| WELL IDENTIFICATION | Previous Seal | Current Seal | DEPTH TO WATER (feet from TOC) | TOTAL DEPTH (feet from TOC) | DATE | TIME | MP HEIGHT ABOVE/ BELOW GROUND ELEVATION (Feet) | CASING DIAMETER (inches) | PID READINGS (ppm) | | WELL CONDITION | | | | | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | PID BZ | PID TOC | BUMPER POSTS | SECURITY BOX | ID PLATE | PAD CONDITION | BOLTS | MANHOLE COVER | MANHOLE GASKET | LOCKS | WELL CAP | SAMPLER ID | |
| WITCTA035 | none | 0438867 | 13.88 | 18 50 | 7/18/00 | 16.25 | -0 73 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA037 | lock | 0438653 | 15 35 | 20 90 | 7/19/00 | 1045 | -0 25 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | |
| WITCTA039 | 0194392 | 0438635 | 21 75 | 24 54 | 7/18/00 | 1425 | -0.2 | 2 | 0 | 8 5 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WITCTA040 | 0180794 | 0438864 | 13 18 | 22.80 | 7/18/00 | 1605 | -0.47 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA041 | 0194047 | 0438866 | 14 73 | 21.37 | 7/18/00 | 1620 | -0 39 | 2 | 0 | 0 | NA | NA | ✓ | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA042 | 0194084 | 0438879 | 13 71 | 19.50 | 7/18/00 | 1638 | -0.23 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA043 | 0194083 | 0438878 | 13.65 | 19 18 | 7/18/00 | 1641 | -0 27 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA044 | 0194184 | 0438880 | 13.53 | -- | 7/18/00 | 1633 | -0 67 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA046 | none | 0438809 | 3 77 | 7 38 | 7/17/00 | 1548 | -0 68 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | |
| WITCTA048 | none | 0438805 | 3 68 | 8 35 | 7/17/00 | 1600 | -0 42 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | none | ✓ | NH & DLM | Silty |
| WITCTA057 | none | none | 30.28 | 42 20 | 7/18/00 | 1140 | +2 0 | 2 | 0 | 8.8 | ✓ | ✓ | none | ✓ | NA | NA | NA | none | ✓ | CW & JH | |
| WJETA530 | 0194073 | 0438605 | 36 42 | 44.19 | 7/17/00 | 1637 | -0.35 | 2 | 0 | 0 8 | NA | NA | none | loose | ✓ | ✓ | ✓ | none | ✓ | CW & JH | |
| WJETA534 | lock | 0438676 | 33 51 | 39 85 | 7/20/00 | 1248 | -0 42 | 2 | 0 | 0 | NA | NA | none | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | CW & JH | |
| WJETA535 | none | 0438606 | 34 74 | 42 56 | 7/17/00 | 1640 | -0 25 | 2 | 0 | 0 | NA | NA | none | loose | ✓ | ✓ | ✓ | none | ✓ | CW & JH | Dedicated pump |
| WP07-10A | none | 0438630 | 31.74 | 37.74 | 7/18/00 | 1135 | +2 3 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | |
| WP07-10B | lock | 0180784 | 31 59 | 36.93 | 7/17/00 | 0845 | +3 0 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | Dedicated pump |
| WP07-10C | lock | 0180776 | 23 89 | 32 95 | 7/17/00 | 0855 | +1 88 | 2 | 0 | 0 | ✓ | ✓ | none | none | NA | NA | NA | ✓ | ✓ | CW & JH | Dedicated pump |

Notes.

BZ - Breathing zone
NA - Not Applicable
PID - Photoionization detector
TOC - Top of casing

-- - Information is not available
* - Seal cannot be attached to well cap

# APPENDIX A.2

# FIELD NOTES

Location NAS Fort Worth JRB Date 7.10.00 33

Project / Client July 2000 Quarterly Event

0700 Arrive at field house. Field sampling Team: Nicole Hade, Catherine Williams, Jennifer Wallace, Jim Heringer
Purpose for field sampling event.
Calibrate equipment, pack vans,
1100 Health & Safety Meeting:
1210 Arrive at WITCTA004 after recieving radio from Base Ops
bail water from security casing
old custody seal: 0194363
PID = 3.3 ppm
DTW = below top of pump, DTpump = 12.56
pump inlet @ ~14.26
1247 Begin purging
Water stops. Attempt to lower pump to continue sampling to no avail will attempt again tomorrow after recharge.
1336 Pack up and go to SPOT35-5.
Custody seal # 0180750
1400 Arrive at GMI-22-07M
decided to hold on sampling SPOT35-5 until later
Custody seal #: 0194418

692 112

34 Location NAS Fort Worth JRB Date 7.10.00

Project / Client July 2000 Quarterly Event

PID = 0 ppm

DTW = below top of pump

pump inlet @ 18.47'

top of pump @ 16.47'

1417 Begin purging

purging is not maintained. Appears to be a controller PSI problem. Call QED for troubleshooting.

1520 Pack up & head to field office to fix controller

New custody seal: 0180730

1545 Call QED - Send compressor in.

1600 End of day

Location NAS Fort Worth JRB Date 7.11.00 35

Project / Client July 2000 Quarterly Event

0700 Arrive at field house. Calibrate equipment. Prepare for day.
0750 Health & Safety Meeting Prepare TB071100
0800 Arrive at LF05-5G
old custody seal missing - found on ground # 0194198
PID = 3.3 ppm BZ PID = 0ppm
DTW = below top of pump Dtop of pump = 21.7
0806 Begin Purging
0810 Stop purging flow cell blocked
0840 Begin purging once again
0904 Collect Samples LF05-5GWG12
DUP02WG12
new custody seal # 0402367
0935 Arrive at WJETA535
old custody seal # 0194415
PID = 0 ppm
DTW = below top of pump Top of pump = 34.55
0945 Begin purging
1008 Collect Sample WJETA535WG12
new custody seal: 0194386
~~1030~~ 1014
1030 Arrive at GMI-22-07M
old custody seal: 0180730

'36 Location NAS Fort Worth JRB Date 7.11.00

Project / Client July 2000 Quarterly Event

PID = 0 ppm

DTW = * below top of pump DTop of pump = 16.47'

1043 Begin purging

1134 Collect Samples

GMI-22-07MWG12

GMI-22-07MWG12MS

GMI-22-07MWG12MD

new custody seal: 0194487

1205 Dispose of IDW at staging area

Break for lunch

Call HF Scientific about ordering turbidity meter parts.

1310 Head to WITCTA010

old custody seal: 0194359

PID = 0 ppm

DTW = below top of pump DTop of pump = 14.8

1340 Begin purging

1403 Collect sample WITCTA010WG12

new custody seal = 0180721

pull pump for gauging

1445 Arrive at GMI-22-08M

old custody seal: 0194414

PID = 0 ppm

DTW = below top of pump DTop pump = 19.6'

Location NAS Fort Worth JRB Date 7.11.00 37

Project / Client July 2000 Quarterly Event

1450 Begin purging
1514 Collect Sample GMI-22-06MW612
pull pump
new custody seal: 0180737
1530 Dispose off IDW at staging area
1540 Pack samples for FedEx delivery
1600 Done for day

[illegible]

38 Location NAS Fort Worth JRB Date 7.12.00

Project / Client July 2000 Quarterly Event

0700 Arrive at field house
0705 Prepare Trip blank TB071200
Calibrate Equipment & prepare for days sampling.
0720 Health & Safety Meeting
0820 Arrive at W1TCTA017
bail water from security casing
old custody seal: 0194197
PID = 0 ppm
DTW = below top of pump Dtop of pump = 9.25
0835 Begin purging
0906 Collect Sample W1TCTA017WG12
new custody seal: 0180725 pull pump
0935 Arrive at W1TCTA024
no custody seal:
DTW = 17.35 Dtop pump = 17.6
PID = 10.5 ppm BZ = 0 ppm
0945 Begin purging
1024 Collect Sample W1TCTA024WG12
new custody seal: 0180731
pull pump
Final DTW = 17.35'
1105 Arrive at MW-53
old custody seal: 0194390

Location NAS Fort Worth JRB Date 7.12.00 39

Project / Client July 2000 Quarterly Event

PID = 0ppm
DTW = 16.41 Dtop pump = Cannot be determined as it is a 4" well hole.
1115 Begin purging
1141 Collect Sample MW-53WG12
new custody seal: 0180732
1215 Break for lunch
1315 Arrive at USGS07T
old custody seal: 0402310
PID = 0ppm
DTW = below pump Dtop pump = 10.4'
1336 Begin purging
1427 Collect Sample USGS07T-WG12
pull pump
new custody seal: 0194488
1500 Dispose of IDWs at Staging area
1515 Unload vehicles and prepare samples for shipment.
1545 Done for day

40 Location NAS Fort Worth JRB Date 7.13.00

Project / Client July 2000 Quarterly Event

0700 Arrive at field house - calibrate equipment
prepare for days sampling
0705 prepare trip blank TB071300
0740 Health & Safety Meeting conducted by
Catherine Williams, LOAO VAN.
0800 Arrive at ITMW-01T & set up
PID = 0.00ppm, 4" pump - Inlet = 17.1'
DTW = 14.32'
0815 Begin purging well & establish
flow rate at 0.2 L/min.
0845 Collect sample ITMW-01T
pack van, ~~new custody # 0180743~~ gw
Final DTW = 14.30' No seal 4" well
0855 PACK VAN ~~Pull pump~~ gw
0905 Head to tower to pick up
radio & head to SP0735-5.
0930 Arrive at ~~SP0735-5~~ WHGLTA011 old custody seal: 0180743
PID = 0ppm DTW 11.98'
TOP = 12.48'
0945 Begin purging well Establish
flow rate of 0.2 L/min
1006 Collect sample WHGLTA011
1014 pack van, pull pump Final DTW = 12.00'
~~ID~~ gw tubing length = 12.48', pump = 1.55'
New custody # 0180743 to 1/2 of inlet

Location NAS Fort Worth JRB Date 7-13-00 41

Project / Client July 2000 Quarterly Event

1040 Arrive at SPOT35-5
old custody seal: 0402335
PID = 10.2ppm BZ = 0ppm
DTW = 22.67 DTop pump: cannot be determined well is 4"
1050 Begin purging SPOT35-5WG12
1129 Collect ~~LOTHOLTM01WG12~~ JW
Rust particals in VOA vials.
Pack Van, Final DTW = ~~24.50~~ 23.50
New custody # 0180736
1145 Break for lunch.
1245 Head to WITCTA004
1200 Arrive at WITCTA004
old custody seal: 0180750
PID = 1.7ppm BZ = 0ppm
DTW = below top of pump DTop pump = 12.55
1310 Begin purging
1345 Collect Sample WITCTA004WG12
pull pump
new custody seal: 0180733
length of tubing = 12.55'
length of pump ½ way to inlet 6.55'
4W ~~1405~~ Arrive at LF05-01
1410 Old custody seal: 0194426

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42 Location NAS Fort Worth JRB Date 7.13.00

Project / Client July 2000 Quarterly Event

PID = 35.9 ppm BZ = 0 ppm

DTW = below top of pump DTpump: 17

1432 Begin purging

1545 Collect Sample LF05-01WG12

~~new custody~~ ~~~~ pull pump

new custody seal: 0180734

1610 Dispose of IDW at staging area

Return radio to tower

1635 Arrive at field house & prepare samples for shipment.

1645 Done for day

Sigl

Location NAS Fort Worth JRB Date 7.14.00 43

Project / Client July 2000 Quarterly Event

0700 Arrive at field house. Team 1 to pull dedicated pumps for next weeks gauging.

0800 Health & Safety Meeting

0815 Begin pulling pumps for gauging

| Well ID | tubing length | w/ pump | ~~custody seal~~ |
|---|---|---|---|
| WP07-10C | 23.7 | 26.9 | |
| WP07-10B | 26.9 | 30.15 | |
| LF05-5G | 21.35 | 24.5 | |
| LF05-19C | 14.25 | 17.45 | |
| WHGLTA003 | 23.8 | 26.9 | |
| WJETA535 | 34.55 | 37.75 | |
| LF04-02 | 30.15 | 33.5 | |
| LF04-4C | 22.4 | 25.6 | |
| ST14-W18 | 9.65 | 12.85 | |
| WHGLTA005 | 9.80 | 13.97 | |
| WHGLTA007 | 9.55 | 12.75 | |
| SD13-01 | 12.15 | 15.4 | |
| ST14-29 | 10.3 | 13.45 | |
| ST14-02 | 13.3 | 16.45 | |
| ST14-28 | 11.5 | 14.75 | |
| LF01-1D | 21.5 | 24.35 | |
| ST14-W31 | 9.32 | 12.5 | |
| ST14-04 | 12.7 | 15.9 | |

44 Location NAS Fort Worth JRB Date 7.14.00

Project / Client July 2000 Quarterly Event

| | | |
|---|---|---|
| ST4-W21 | 12.7 | 15.9 |
| WHGLTA008 | 8.2 | 11.4 |
| ST4-W11 | 11.62 | 14.84 |
| WHGLTA203 | 15.25 | 16.95 |
| WCHMHTA013 | 16.02 | 17.75 |
| GMI-22-07M | 16.1 | 19.1 |
| ST4-03 | 12.15 | 15.35 |
| ST4-W16 | 11.02 | 14.25 |
| ST4-24 | 10.85 | 14.5 |
| SD13-02 | 11.85 | 15.0 |

Dispose of IDW water at staging area.

1300 Unload van

1330 done for day

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Location NAS Fort Worth JRB Date 7.17.00

Project / Client July 2000 Quarterly Event

0700 Arrive at field house - calibrate equipment.

0730 Health & Safety Meeting

Begin groundwater elevation gauging

| Well ID | Depth to Water | Total depth |
|---|---|---|
| BSS-A | 5.29 | 10.28 |
| GMI-22-07M | 16.86 | 23.29 |
| GMI-22-08M | 17.82 | 22.46 |
| WITCTA008 | 9.21 | 14.21 |
| WITCTA007 | 15.16 | 22.49 |
| WITCTA009 | 6.92 | 12.71 |
| WITCTA010 | 15.3 | 18.47 |
| WITCTA011 | 17.67 | 23.65 |
| WITCTA015 | 18.43 | 25.60 |
| WITCTA024 | ~~9.36~~ 17.32 | ~~13.51~~ 23.34 |
| WITCTA025 | ~~17.32~~ 10.94 | ~~23.34~~ 12.30 |
| WITCTA026 | 5.71 | ~~12.30~~ 9.50 |
| WITCTA027 | 11.72 | ~~9.50~~ 22.93 |
| WITCTA028 | 10.89 | ~~22.93~~ 14.81 |
| WITCTA031 | 4.46 | ~~14.81~~ 6.85 |
| WITCTA017 | 9.36 | 13.51 |
| WHGLTA901 | 9.94 | 22.19 |
| WHGLTA902 | 17.35 | 43.35 |
| WHGLTA903 | 26.77 | 43.14 |

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46 Location NAS Fort Worth JRB Date 7.17.00

Project / Client July 2000 Quarterly Event

| WELL ID | TOW | TD |
|---|---|---|
| WHGLTA904 | 28.19 | 37.26 |
| WHGLTA905 | 19.60 | 30.21 |
| WHGLTA952 | 26.19 | 57.64 |
| WHGLTA953 | 26.85 | 57.93 |
| WHGLTA954 | 29.31 | 57.78 |
| WTCTA046 | 3.77 | 7.38 |
| WTCTA045 | 3.68 | 8.35 |
| MW-2 | 12.04 | 49.15 |
| MW-3 | 12.03 | 22.15 |
| MW-36 | 5.05 | 20.16 |
| MW-37 | 9.04 | 20.29 |
| 13 MW-5 | 4.92 | 8.15 |
| 13 MW-6 | 2.44 | 5.96 |
| MW-7 | 8.74 | 17.16 |
| MW-8 | 8.26 | 27.29 |
| MW-9 | 10.98 | 28.77 |
| ~~MW-ET-02T~~ NH | | |
| ~~OT-15C~~ NH SAV-1 | 12.45 | 19.62 |
| SAV-2 | 12.10 | 18.93 |
| BG-SMW01 | 8.19 | 23.11 |
| BG-SMW02 | 12.36 | 20.99 |
| BG-SMW03 | 11.58 | 21.21 |
| BG-SMW04 | 12.94 | 23.5 |

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Location NAS Fort Worth JRB Date 7.17 00 47

Project / Client July 2000 Quarterly Event

| WELL ID | DTW | TD |
|---|---|---|
| BGSMW05 | 6.85 | 12.57 |
| BGSMW06 | 11.39 | 16.98 |
| BGSMW07 | 9.19 | 18.01 |
| BGSidingMW-1 | 18.87 | 19.68 |
| GMT-22-03M | 21.05 | 34.86 |
| GMT-22-05M | 11.66 | 13.77 |
| GMT-22-06M | 18.95 | 26.55 |
| USGS05P | 40.67 | 91.98 |
| LSA1628-1 | 10.86 | 19.48 |
| LSA1628-14 | 11.38 | 16.02 |
| LSA1628-15 | 11.11 | 17.01 |
| MW-10 | 14.83 | 33.73 |
| MW-11 | 27.21 | 33.73 |
| MW-12 | 10.26 | 27.38 |
| WCHMHTA013 | 17.25 | 19.01 |

1700 Done for day

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48 Location NAS Fort Worth JRB Date 7.18.00

Project / Client July 2000 Quarterly Event

0700 Arrive at field house, calibrate PID

0715 Health & Safety Meeting

0730 Begin gauging for the day.

| WELL ID | DTW | TD |
|---|---|---|
| WHGLTA005 | 11.97 | 15.19 |
| WHGLTA007 | 15.53 | 30.39 |
| WHGLTA008 | 7.38 | 15.22 |
| WHGLTA201 | 18.69 | 22.09 |
| WHGLTA202 | 18.90 | 21.73 |
| WHGLTA203 | 16.26 | 17.61 |
| WHGLTA601 | 14.64 | 18.25 |
| WHGLTA602 | 15.35 | 18.54 |
| WHGLTA603 | 16.64 | 20.08 |
| LF01-1B | 15.16 | 19.65 |
| LF01-1D | 19.79 | 28.08 |
| STM-01 | 14.03 | 18.31 |
| STM-02 | 12.75 | 19.51 |
| STM-03 | 10.87 | 19.78 |
| STM-04 | 13.03 | 19.22 |
| STM-24 | 11.33 | 16.39 |
| STM-27 | 9.42 | 17.76 |
| STM-28 | 12.05 | 16.95 |
| STM-29 | 9.97 | 15.57 |

Location NAS Fort Worth JRB Date 7.18.00

Project / Client July 2000 Quarterly Event

| Well ID | DTW | TD |
|---|---|---|
| STM-30 | 6.36 | 13.94 |
| STM-W05 | 9.02 | 16.24 |
| STM-W06 | 12.51 | 22.65 |
| STM-W07 | 13.78 | 24.60 |
| STM-W08 | 11.79 | 24.89 |
| STM-W09 | 9.87 | 20.13 |
| STM-W10 | 8.21 | 19.53 |
| STM-W11 | 9.01 | 17.53 |
| STM-W12 | 7.61 | 17.63 |
| STM-W13 | 10.18 | 17.08 |
| STM-W15 | 11.06 | 18.65 |
| STM-W16 | 8.86 | 19.04 |
| STM-W18 | 9.46 | 17.43 |
| STM-W19 | 10.23 | 16.59 |
| STM-W20 | 9.71 | 15.80 |
| STM-W21 | 10.82 | 17.53 |
| STM-W22 | 10.57 | 10.85 |
| STM-W23 | 7.46 | 9.95 |
| STM-W31 | 10.85 | 13.77 |
| STM-W32 | 5.03 | 12.12 |
| 15B | 9.02 | 12.41 |
| 17I | 12.61 | 19.78 |
| 17J | 13.23 | 21.08 |

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50 Location NAS Fort Worth JRB Date 7.18.00

Project / Client July 2000 Quarterly Event

| WELL ID | DTW | TD |
|---|---|---|
| 17K | 11.26 | 18.59 |
| 17L | 12.35 | 20.91 |
| 17M | 10.69 | 17.78 |
| OT-15C | 8.88 | 15.49 |
| SD13-01 | 12.73 | 17.39 |
| SD13-02 | 13.37 | 16.38 |
| SD13-03 | 11.15 | 16.73 |
| SD13-04 | 9.92 | 13.22 |
| SD13-05 | 9.45 | 13.52 |
| SD13-06 | 11.77 | 14.34 |
| SD13-07 | 18.69 | 22.44 |

1730 Done for day

[illegible]

Location NAS Fortworth JRB Date 7.18.00 

Project / Client July 2000 Quarterly

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| Well ID | DTW | TD |
|---|---|---|
| WITCTA019 | 15.25 | 19.34 |
| WITCTA021 | 15.87 | 24.00 |
| WITCTA022 | 17.72 | 23.43 |
| WITCTA032 | 7.39 | 12.64 |
| WITCTA033 | 9.60 | 13.79 |
| WITCTA034 | 9.04 | 13.04 |
| WITCTA035 | 13.88 | 18.50 |
| WITCTA041 | 14.73 | 21.37 |
| WITCTA042 | 13.71 | 19.50 |
| WITCTA043 | 13.65 | 19.18 |
| WITCTA044 | 13.53 | |
| WHGLTA034 | 9.71 | 14.55 |
| WHGLTA035 | 9.81 | 14.57 |
| WITCTA040 | 13.18 | 22.80 |

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52 Location NAS Fort Worth JRB Date 7.19.00

Project / Client July 2000 Quarterly Event

0700 Arrive at field house, calibrate PID

0720 Health and Safety Meeting

0745 Begin well gauging

| Well ID | DTW | TD |
|---|---|---|
| WITCTA013 | 15.69 | 21.15 |
| WITCTA014 | 21.26 | 24.34 |
| WITCTA016 | 19.14 | |
| WCHMHTA005 | 18.91 | 26.75 |
| WCHMHTA006 | 18.75 | 36.51 |
| WCHMHTA008 | 15.40 | 24.52 |
| WCHMHTA009 | 8.18 | 11.68 |
| WCHMHTA010 | 7.17 | 24.50 |
| WCHMHTA014 | 8.45 | 11.84 |
| WHGLTA001 | 23.87 | 27.94 |
| WHGLTA010 | 26.69 | 30.28 |
| WHGLTA011 | 12.86 | 17.82 |
| WHGLTA012 | 18.75 | 23.58 |
| WHGLTA013 | 22.00 | 25.87 |
| WHGLTA014 | 21.32 | 25.56 |
| WITCTA002 | 4.17 | 7.40 |
| WITCTA004 | 14.03 | 15.49 |
| WITCTA005 | 13.25 | 18.57 |
| WITCTA006 | 13.38 | 18.43 |
| WITCTA003 | 14.89 | 23.52 |

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Project / Client July 2000 Quarterly Event

| Well ID | DTW | TD |
|---|---|---|
| WHGLTA028 | 14.29 | 18.63 |
| WHGLTA027 | 20.95 | 26.40 |
| WHGLTA026 | 21.06 | 27.48 |
| WHGLTA030 | 3.17 | 14.06 |
| WHGLTA029 | 20.41 | 25.40 |
| WHGLTA033 | 12.62 | 27.37 |
| MW-38 | 16.57 | 18.95 |
| MW-39 | 16.38 | 18.96 |
| MW-40 | 16.72 | 19.82 |
| MW-41 | 16.95 | 20.24 |
| MW-42 | 16.78 | 19.49 |
| MW-50 | 11.04 | 14.31 |
| MW-51 | 11.11 | 15.08 |
| MW-57 | 12.36 | 14.28 |
| SPOT35-1 | 23.29 | 26.19 |
| SPOT35-3 | 20.96 | 23.81 |
| SPOT35-4 | 25.55 | 24.67 |
| SPOT35-5 | 22.93 | 29.70 |
| SPOT35-6 | 24.06 | 29.01 |
| SPOT35-7 | 8.47 | 20.51 |
| GMF-22-02M | 11.21 | |
| GMF-22-04M | 20.47 | 25.27 |
| HOT-120 | 6.84 | 17.71 |

692 132

54

Location NAS Fort Worth JRB Date 7.19.00

Project / Client July 2000 Quarterly Event

| Well ID | DTW | T.D. |
|---|---|---|
| HM-12S | 20.15 | 33.02 |
| LSA1628-2 | 11.29 | 19.08 |
| LSA1628-3 | 11.02 | 17.96 |
| MW-11A | 23.32 | 27.19 |
| SPOT35-8 | 23.39 | 27.38 |
| SPOT35-9 | 23.68 | 28.60 |
| STM4-25 | 6.48 | 16.63 |

All dedicated pumps have been installed

Done 1-day gauging complete.

Elias Ruiz

Location NAS Fort Worth JRB Date 7.20.00

Project / Client July 2000 Quarterly Event

0700 Arrive at field house, calibrate equipment. Prepare for sampling of one well and well location with the metal detector. Prepare TB072000

0730 Health and Safety Meeting

0745 Pick up radio from tower and head to HM-126

0810 Arrive in area of HM-126. Look for well using metal detector

0915 Locate well HM-126 and setup for sampling (no place for a cone)

PID = 0

DTW = 16.56 TD = 35.82

Pump inlet @ ~26.86'

0945 Begin purging

1013 Collect Sample HM-126WG12

1040 Decon pump & begin search for well HM-114 on flightline.

1150 Locate HM-114 and gauge

PID = 0

DTW = 19.97 TD = 35.57

new custody seal: 0194477

692 134

56 Location NAS Fort Worth JRB Date 7.20.00

Project / Client July 2000 Quarterly Event

1220 Unload vehicle and prepare to end field event. Team one is done for the July Event. EB072000 collected

Location NAS Fort Worth JRB Date 7-10-00 31

Project / Client July 2000 Quarterly Groundwater Sampling / AFCEE

0720 Arrive at field office. Pack equipment, calibrate equipment.

0930 Go on base to renew/get Base passes with M. Dodyk. Navy unable to provide Base passes. M. Dodyk needs to obtain current letter to allow him to sign for passes

1030 Return to field office. Discuss health and safety topics with the Team 2 (C. Williams and Jim Heranger).

1100 Break for lunch.

1200 Arrive at ITMW-01T Set up. Remove seal #194399, PID: 0.0 ppm DTW: 14.21. Unable to determine if screen interval provided was for intake of pump. Pulled pump to verify placement of pump. Depth to pump intake: 17.1'.

32 Location NAS Fort Worth JRB Date 7-10-00

Project / Client July 2000 Quarterly Groundwater Sampling / AFCEE

Replace pump and go to next well.

1300 Arrive at WHGLTA025.
Remove seal # 0194357.
PID: 0.0 ppm. DTW: 16.6'
Top of pump ~~17.8~~ CW 16.9
pump inlet - ~~18.4~~ 19.5
pulled pump up slowly 1' to center across saturated screened interval @ 18.5
(Screen 10.5-20.5)

1331 CW ~~1531~~ Begin purging well.
Establish flow rate of 0.3L/min.

1355 CW ~~1555~~ Parameters stabilize.
Collect samples
WHGLTA025WG12.

1410 CW ~~1610~~ Complete sample collection.
Lock well with seal # 0180760.

1415 Arrive at WHGLRW015.
Set up. PID: 0.0 ppm
Remove seal #: 0194372
DTW: 15.55', pump intake is at 19.3'.

Location NAS Fort Worth JRB Date 7-10-00 33

Project / Client July 2000 Quarterly Groundwater Sampling / AFCEE

1503 Begin purging well.
1520 Collect samples WHGLRW015NG12
1530 Complete well sample collections. Lock well with seal #0180772. Final DTW: 15.55'.
1545 Return to field office. Drop off samples.
1615 Return to hotel for J. Heringer to get insulin shot.
1635 Return to field office.
1650 Leave site for day.

34 Location NAS Fort Worth JRB Date 7-12-00

Project / Client July 2000 Quarterly Groundwater Investigation / AFCEE

0705 Arrive at field office.
0715 Health and Safety Meeting conducted by C. Williams.
0730 Calibrate equipment, load van, complete ~~some~~ office work while waiting for ~~new replacement~~ replacement compressor.
1040 New equipment arrives via Fed Ex.
1100 Act radio from Navy Tower.
1115 Arrive at HM-123. Set up. Remove seal# 0194421. PID: 8.4ppm at ~~DTW~~; 0.0ppm in BZ. ; DTW: 28.90'
1130 Begin purging well.
1157 Collect samples HM-123WG12 ~~and~~ Dup02. Final DTW: 28.90'
Remove dedicated pump and place in bag for storage.
Depth to pump intake: 31.5'.
Lock well w/ seal # 0180761.
Pump is ~~2.5~~ 3.5'

Location NAS Fort Worth JRB 7-12-00 35

Project / Client July 2000 Quarterly Groundwater Investigation / AFCEE

1230 Break for lunch
1300 Tried to sample LF05-D1 but denied permission to cross foxtrot. Headed to LF03-3D
1340 ~~TOP = 12.6'~~ gw Arrive at LF03-3D after delay due to C130 take off. Set up. Remove seal # 0194361 TOP = 12.6', 0.0 ppm in B.Z. DTW not determined because it is below TOP.
1346 Begin purging well.
1409 Collect sample LF03-3DWG12 (Established flow rate 0.15 L/min) Remove dedicated pump & place in box for storage. Depth to pump intake: 16.19' Pump = 3.5' Lock well w/ seal # 0180751 gw ~~DTF~~ TD = 17.87', Condition of bottom of well, good.
1500 Meet Team #1 and give them our samples.

692 140

36 Location NAS Fort Worth JRB Date 7-12-00

Project / Client July 2000 Quarterly Groundwater Investigation/AFCEE

| | |
|---|---|
| 1515 | Arrive at W-153. Set up. |
| | Remove seal #0194427. |
| | PID: 0.0 ppm. DTW: 22.43' |
| | Depth to top of pump: 31.12'. |
| 1530 | Begin purging well. |
| 1555 | Collect sample W-153WG12. |
| | Final DTW: 22.45'. |
| | Pull pump for gauging. |
| | Depth to pump intake: 34.74' |
| | Length of pump: 3.5' |
| | Lock w/ seal #0180792. |
| 1625 | Return radio to Navy Tower. |
| 1635 | Store IDW in IDW Storage |
| | Area in smaller poly tank. |
| 1645 | Return to field office. |
| 1710 | Leave Site for day. |

Carl Winn

Location NAS Fort Worth JRB Date 7-13-00 37

Project / Client July 2000 Quarterly / Phase III RFI Landfills Investigation

0700 Arrive at field house. Calibrate equipment, load van.

0740 Health and Safety Meeting.

0825 Arrive at WHGLTA705. Set up. Remove custody seal # 0194476. PID: 4.0 ppm at wellhead; 0.0 ppm in BZ. DTW: 5.42'; TD: 10.7' lower pump intake to 8.0'.

0900 Begin purging well. Establish flow rate of 0.2 L/min.

0955 Collect samples WHGLTA705WG02.

1015 Lock well w/ seal # 0180753.

1040 Return to field office for additional equipment.

1055 Arrive at WHGLTA706. Decon pump. Remove seal # 0194484. PID: 8.0 ppm at wellhead; 0.0 ppm in BZ. DTW: 13.55'; TD: 17.84' lower pump intake to 15.7'.

1140 Begin purging well.

692 142

38 Location NAS Fort Worth JRB Date 7-13-00

Project / Client Phase III RFI Landfills Investigation / AFCEE

1240 Collect samples WHGLTA706WG02
Lock well w/ seal #0180752
1300 Decon pump.
1320 Break for lunch.
1420 Collect equipment blank EB071300.
1500 Arrive at WHGLTA704.
Remove seal #0180714.
PID: 4.8 ppm at WH; 0.0 ppm in BZ.
DTW: 12.49'; TD: 22.11'
Lower pump to 17.3' (intake).
1525 Begin purging well.
1555 Collect samples WHGLTA704WG07.
1630 Decon pump. Lock well with seal #0180773.
1700 Store purge and decon water at IDW Storage Area.
1710 Return to field office.
1730 Leave Site for day.

Cathy Willis

Location NAS Fort Worth JRB Date 7-14-00 

Project / Client July 2000 Quarterly Groundwater Investigations / AFCEE

0700 Arrive at field office. Calibrate equipment, load vans.
0715 Prepare trip blanks [TB071400]
0750 Health and Safety Meeting
0800 Mob to tower to pick up radio
0822 ~~Arrive at HM-126 & set up~~ Unable to find HM-126 due to tall grass, grass clippings & lack of landmarks. Will return to locate.
0910 Arrive at WHGLRW017. Set up. Remove Seal #0402348. PID: 0.0ppm; DTW: 16.5'; TD: 23.9'. Lower pump intake to 20.2'.
0945 Begin purging well. Establish flow of 0.1 L/min.
1010 Collect sample [WHGLRW017] & [DUP01].
Final DTW = 16.5'
new custody # 6180780
1035 Collect ambient blank [AB071400WG12]

692 144

40 Location NAS Fort Worth JRB Date 7-14-00

Project / Client July 2000 Quarterly Groundwater Sampling / AFCEE

1045 Decon pump.

1120 Return to field office. Make phone calls to Herndon to find last sampling event for HM-126. No record of HM-126 being sampled by HydroGeologic; therefore the well most likely does not have dedicated tubing and we would not be able to sample today even if the well was located. Will order tubing.

1130 Collect equipment blank EB071400.

1145 Break for lunch.

1240 Arrive at WHGLTA025. Pull pump for gauging. ~~Depth~~ Length to top of pump: 16.85' ~~DT pump intake~~ cw length of pump: 1.55' Seal # 0180760 Removed Lock w/ seal # ~~01500~~ 0180793

16.85' cw

~~1.55~~' c

Location NAS Fort Worth JRB Date 7-14-00 41

Project / Client July 2000 Quarterly Groundwater Investigation / AFCEE

1255 Arrive at WHGLTA601.
PID: 0.0ppm; Remove seal #0194190
Length to top of pump: 14.92'
Length of pump to intake: 1.55'
Lock w/ seal # 0180795.

1315 Arrive at W1TCTA040.
PID: 0.0ppm
Remove Seal # 0194028.
~~Length to top of pump:~~ CW
~~Length of pump:~~ CW
Lock w/ seal # 0180794.
No dedicated pump in well.

1325 Return radio to Navy Tower.

1330 Dispose of Purge and decon water at IDW Storage Area.

692 146

42 Location NAS Fort Worth JRB Date 7/17/00

Project / Client July 2000 Quarterly - Well Gauging / AFCEE

0700 Arrive at field office Calibrate equipment, load van.

0755 Health and Safety Meeting.

0825

| Monitoring Well | Custody Seal Removed | PID ppm | DTW (ft) | TD (ft) | Seal Locked |
|---|---|---|---|---|---|
| WHGCTA025 | 0180793 | 0.6 | 16.73 | 21.26 | #0180791 |
| WP07-10B | – | 0.0 | 31.59 | 36.93 | 0180784 |
| WP07-10C | – | 0.0 | 16.73 | 21.26 | 0180776 |
| WHGCTA002 | 0194396 | 0.0 | 14.67 | 19.97 | 0180781 |
| LF05-5B | 0194385 | 0.0 | 7.0 | 12.44 | 0180779 |
| LF05-5H | – | 0.0 | – | 16.56 | 0180782 |
| LF04-02 | (broken) 0194420 | 0.0 | 31.94 | 38.11 | 0180783 |
| LF04-4E | – | 0.0 | 26.89 | 30.48 | 0180778 |
| LF04-4D | – | 5.4 | 23.41 | 27.74 | 0180777 |
| LF04-4C | – | 2.4 | 21.55 | 27.69 | 0180785 |
| LF04-4B | – | 2.2 | 20.20 | 25.21 | 0180786 |
| LF04-4A | – | 0.0 | 14.76 | 24.94 | 0180787 |

1140 Break for lunch. Run errands, buy supplies.

1255

| Monitoring Well | Custody Seal Removed | PID | DTW | TD | Locked w/ Seal # |
|---|---|---|---|---|---|
| GMI-04-01M | – | 4.4 | – | 19.98 | #0180788 |
| LF05-19 | – | 11.2 | 15.67 | 19.92 | 0180790 |
| LF04-04 | Unable to locate; construction debris | | | | |
| WHGCTA022 | 0402397 | 5.7 | 23.90 | 32.65 | 0180789 |

Location NAS Fort Worth JRB Date 7/17/00 43

Project / Client July 2000 Quarterly
– Well Gauging / AFCEE

| 1420 | Monitoring Well | Custody Seal | PID | DTW (ft) | TD | Lock w/ Seal # |
|---|---|---|---|---|---|---|
| | LF04-10 | 0194311 | 2.4 | (Pull pump) | | 0180796 |
| | LF05-18 | 0194310 | 0.0 | 20.86 | 23.50 | 0180797 |
| | WHGLTA003 | – | 0.0 | 23.64 | 29.50 | 0180800 |
| | WHGLRW015 | 0180772 | 0.0 | 15.70 | 18.33 | No place for seal ~~0180799~~ |
| | WHGLRW019 | 0402342 | 0.0 | 15.87 | 23.71 | 0180799 ~~0402342~~ |
| | WHGLTA023 | 0402334 | 0.0 | 18.38 | 28.64 | 0438601 |
| | WHGLRW018 | 0402399 | 0.0 | 18.71 | 27.73 | 0438602 |
| | WHGLRW016 | 0194054 | 0.0 | 14.48 | 22.64 | 0438603 |
| | ITMW-01T | – | 2.0 | 14.43 | 21.63 | No place ~~0~~ |
| | WHGLRW017 | 0180780 | 0.0 | 16.60 | 23.98 | 0438604 |
| | WJETA530 | 0194073 | 0.8 | 36.42 | 44.19 | 0438605 |
| | WJETA535 | – | 0.0 | 34.74 | 42.56 | 0438606 |
| | MWMTAC-001 | (Dolphin) – | 0.6 | 35.20 | 43.77 | 0438607 |

1715 Return to field office.
1745 Leave Site for day.

Cathy Willis

692 148

44 Location NAS Fort Worth JRB Date 7/18/00

Project / Client July 2000 Quarterly Well Gauging / AFCEE

0715 Arrive at field office. Calibrate PIDs. Load vans.

0730 Health & Safety Meeting.

0750 Arrive at WHGLTA025. Replace pump. Custody seal # 0180791 removed. Lock w/ seal # 0438611. PID: 0.0 ppm.

0805 Get radio from Navy Tower.

0815

| Monitoring Well | Seal Removed | PID (ppm) | DTW (ft) | TD (ft) | Locked w/ Seal # |
|---|---|---|---|---|---|
| WHGLTA801 | 0194268 | 13.4 | 9.12 | 13.84 | 0438612 |
| WHGLTA803 | 0194265 | 0.0 | 8.55 | 12.32 | 0438613 |
| WHGLTA004 | 0194269 | 5.5 | Remove pump Depth to top: 18.2' intake 21.37' | | 0438614 |
| FT08-11A | 0180705 | 0.0 | 12.61 | 17.56 | 0438615 |
| WHGLTA704 | 0180773 | 0.0 | 12.59 | 22.10 | 0438616 |
| FT08-11B | 0180701 0180702 | 0.0 | 12.12 | 16.97 | 0438617 |
| WHGLTA702 | 0180703 | 0.0 | 13.98 | 21.58 | 0438619 |
| WHGLTA703 | 0194378 | 0.0 | 19.32 | 28.03 | 0438620 |
| LF05-5D | 0194368 | 0.0 | 15.58 | 20.94 | 0438608 |
| LF05-5A | 0194371 | 0.0 | 27.81 | 30.35 | 0438609 |
| LF05-5E | 0194302 | 0.0 | 31.59 | 35.50 | 0438610 |
| LF04-01 | Gov't lock | 0.0 | 34.00 | 41.34 | 0438621 |
| FT09-12A | Gov't lock | 0.0 | 18.04 | 27.85 | 0438622 |
| USGS07P | 0194063 | 0.0 | 87.65 | 140.50 | 0438623 |

Location NAS Fort Worth JRB Date 7/18/00 45

Project / Client July 2000 Quarterly Well Gauging / AFCEE

| 1015 | Monitoring Well | Seal Removed | PID (ppm) | DTW(ft) | TD(ft) | Locked w/ Seal # |
|---|---|---|---|---|---|---|
| | USGS07T | 0194065 488 | 0.0 | 11.89 | 15.18 | 0438624 |
| | FT09-12C | 0481647 | 0.0 | Removed pump DT top: 32.15 intake 35.3 | | 0438625 |
| | FT09-12B | 0194065 0194065 | 25.8 | 33.76 | 37.63 | 0438626 0438627 |
| | FT09-12D | Gov't lock — | 0.0 | 33.44 | 36.99 | 0438628 |
| | FT09-12E | 0194325 | 0.0 | 34.07 | 38.58 | 0438629 |
| | WP07-10A | Gov't lock — | 0.0 | 31.74 | 37.74 | 0438630 |
| | WITCTA057 | ~~Gov't lock~~ — | 18.8 | 30.28 | 42.20 | ~~Gov't lock~~ — |

1150 Spoke w/ Mike from IT Corp. They plan to fill in a ditch between Landfills 5 and 7. The area planned for fill would cover up monitoring wells WHGLTA703, LF05-5D, and WHGLTA702. Also, we were unable to locate MW-13. It appears a new concrete pad and above-ground fuel tank are in the location of where MW-13 should be located.

1215 Break for lunch. Spoke w/ Brad Nielsen HGL via phone. It will be necessary to properly abandon wells before IT covers them.

692 150

46 Location NAS Fort Worth JRB Date 7/18/00

Project / Client July 2000 Quarterly - Well Gauging / AFCEE

| | Monitoring Well | Seal # Removed | (ppm) PID | (ft) DTW | (ft) TD | Locked w/Seal # |
|---|---|---|---|---|---|---|
| 1345 | LF05-5C | 0194380 | 0.0 | 14.20 | 21.15 | 0438631 |
| | WHGLTA705 | 0180753 | 0.0 | 5.71 | 10.69 | 0438632 |
| | WHGLTA706 | 0180752 | 0.0 | 13.69 | 17.96 | 0438633 |
| | LF05-02 | Gov't lock — | 0.0 | 26.29 | 28.47 | 0438634 |
| | WITCTA039 | 0194392 | 8.5 | 21.75 | 24.54 | 0438635 |
| | HM-123 | 0180761 | 0.0 | 28.90 | 38.38 | 0438636 |
| | WHGLTA701 | 0194398 | 0.0 | 26.84 | 34.85 | 0438637 |
| | LF03-3D | 0180751 | 0.0 | 12.83 | 17.23 | 0438638 |
| | HM-127 | — | 0.0 | 27.07 | 37.64 | ~~0438639~~ |
| | WHGLTA303 | 0194373 | 0.0 | 22.30 | 22.35 | 0438639 |
| | WHGLTA302 | 0481969 | 0.0 | 19.98 | 22.67 | 0438640 |
| | LF05-01 | — | 0.0 | 20.70 | 27.50 | 0438641 |
| | W-153 | 0180792 | 0.0 | 22.43 | 39.25 | 0438642 |
| | HM-116 | 0194428 | 0.0 | 24.53 | 31.38 | 0438643 |
| | WCHMHTA-002 | Gov't lock | 0.0 | 22.45 | 42.25 | 0438644 |
| | WCHMHTA-004 | Gov't lock — | 0.0 | 22.64 | 37.72 | 0438645 |
| | WCHMHTA-003 | Gov't lock — | 0.0 | 22.43 | 28.58 | 0438646 |
| | HM-118 | Dolphin — lock | 0.0 | 16.97 | 26.25 | — |
| | HM-119 | Dolphin — lock | 0.0 | 15.67 | 28.69 | — |
| | HM-117 | Dolphin — lock | 0.0 | 23.49 | 38.50 | — |

1840 Return to field office

1845 Leave Site for day.

Location NAS Fort Worth JRB Date 7/19/00 

Project / Client July 2000 Quarterly — Well Gauging / AFCEE

0715 Arrive at field house. Calibrate PIDs, load vans.

0730 Health and Safety Meeting

0740 Called Industrial Security, Lockheed Martin, 777-2567, to inform them that we will be gauging wells at the property boundary today. Spoke w/ Randy.

0800

| Monitoring Well | Seal # Removed | PID (ppm) | DTW (ft) | TD (ft) | Locked w/ Seal # |
|---|---|---|---|---|---|
| LF05-5G | — PVC | 0.0 | 23.77 | 30.12 | 0438647 |
| LF05-14 | — (Unable to open 6" PVC cap) | | | | ~~0438648~~ (SW) |
| LF04-10 | 0180796 | 0.0 | 35.35 | 48.25 | 0438648 |
| WL-001 JEPM | — | 0.0 | 79.13 | 167.35 | — |
| HM-111 | — | 0.0 | 27.79 | 47.54 | — |
| HM-110 | 0194035 | 0.0 | 27.92 | 35.37 | 0438649 |
| HM-112 | — | 54 | 30.61 | 47.62 | — |
| LF09-120 | 0438625 | 0.0 | 34.71 | 39.44 | 0438650 |
| WHGLTA004 | 0438614 | 0.0 | 18.73 | 23.52 | 0438651 |
| WHGLTA604 | 0194078 | 0.0 | 19.50 | 23.97 | 0438652 |
| WITCTA037 | — | 0.0 | 15.35 | 20.90 | 0438653 |
| WHGLTA204 | 0194077 | 0.0 | 17.99 | 25.30 | 0438654 |
| USGS6T | — | Jacobs pump 2" well | | Did not measure | 0438655 |
| USGS6P | 0194050 | 0.0 | 59.58 | 73.97 | 0438656 |

692 152

48 Location NAS Fort Worth JRB Date 7/19/00

Project / Client July 2000 Quarterly — Well Gauging

| | Monitoring Well | Custody Seal Removed | (ppm) PID | (ft) DTW | (ft) TD | Locked w/Seal # |
|---|---|---|---|---|---|---|
| 1130 | MW-18 | (No well) | Newly constructed Above Ground Diesel Fuel Tank & Concrete Pad | | | |
| | MW-19 | 0481699 | 0.0 | 18.53 | 19.60 | 0438655 |
| | HM-124 | — | 0.0 | 15.98 | 24.27 | — |
| | WITCTA020 | Gov't lock — | 0.0 | 22.32 | 25.51 | — |
| (NW) | MW-53 | 0180732 | 0.0 | 16.78 | 19.44 | 0438657 |
| (SE) | MW-52 | — | 0.0 | 19.38 | 19.55 | 0438658 |

1250 Break for lunch

| | Monitoring Well | Custody Seal # | PID (ppm) | DTW (ft) | TD (ft) | Locked w/Seal |
|---|---|---|---|---|---|---|
| 1400 | LF01-1E | 0194438 | 5.1 | 18.14 | 32.01 | 0438659 |
| | LF01-1F | 0194432 | 0.0 | 18.59 | 32.47 | 0438660 |
| | WHGLTA102 | 0194093 | 0.0 | 16.36 | 37.37 | 0438661 |
| | WHGLTA103 | 0194096 | 0.0 | 23.48 | 45.53 | 0438662 |
| | WHGLTA104 | 0402332 | 0.0 | 31.12 | 45.43 | 0438663 |
| | WHGLTA101 | 0194092 | 0.0 | 16.16 | 34.67 | 0438665 |
| | WHGLTA038 | — | 1461 WH 0.0 BZ | — | 25.46 | 0438666 |
| | WHGLTA037 | 0194402 | 1220 WH 0.0 BZ | 15.47 | 23.20 | 0438667 |
| | WHGLTA036 | 0194461 | 0.0 | 10.36 | 23.50 | 0438668 |
| | USGS03T | Master Lock — | 0.0 | 4.62 | 8.60 | ~~0438669~~ 69 |
| | WCHMHTA007 | 0481692 | 0.0 | 16.19 | 32.35 | 0438669 |
| | HM-121 | Dolphin Lock — | 0.0 | 19.35 | 30.30 | — |
| | WHGLTA203 | — | 0.0 | Replace/ Install pump | | 0438884 |
| | WHGLTA020 | 0402347 | 0.0 | 12.10 | 14.85 | 0438671 |
| | WHGLTA601 | 0438877 | 0.0 | Replace pump | | 0438670 |

1730 Leave site for day. [illegible]

Location NAS Fort Worth JRB Date 7/20/00 

Project / Client July 2000 Quarterly

0730 Arrive at field office.
0800 Health and Safety Meeting.
0815 Review well gauging records to determine any missing information.

1000

| Monitoring Well | Seal # | PID (ppm) | DTW (ft) | TD (ft) | Locked w/Seal # |
|---|---|---|---|---|---|
| LF04-4F | Gov't lock – | 0.0 | 32.50 | 36.94 | 0438672 |
| LF04-4G | Gov't lock – | 0.0 | 29.00 | 32.57 | 0438673 |
| CAR-RW07 | – | 0.0 | 27.70 | 33.61 | – |

1030 The following wells are recovery wells and will not be gauged: CAR-RW1; CAR-RW2; CAR-RW4; CAR-RW5; CAR-RW8; CAR-RW9; CAR-RW10; CAR-RW11; CAR-RW12; LF04-03.

1040 Take pictures of area of demolished house on golf course – former location of LF04-04.

1115

| Monitoring Well | Seal # | PID (ppm) | DTW (ft) | TD (ft) | Locked w/Seal # |
|---|---|---|---|---|---|
| WHGLTA030 | 0438872 | 0.0 | 3.17 | 14.08 | 0438674 |
| WHGLTA031 | (Need to return w/new key) | | | | 0438675 |

1130 Take picture of former location of MW-13 by Bldg 4127 a new

50 Location NAS Fort Worth JRB Date 7/20/00
Project / Client July 2000 Quarterly

| | |
|---|---|
| | concrete pad and above ground Diesel tank are in location. |
| 1145 | Break for lunch |
| 1230 | LF05H4, Unable to open 6" PVC well cap. |
| 1240 | WJETA534; PID: 0.0 ppm ~~Remove seal~~ ow; DTW: 33.51; TD: 39.85; TOC bgs: -0.42 Lock w/seal 0438676 |
| 1300 | Exchange metal detector at Nation's Rent. |
| 1320 | Take pictures of ditch area between landfills 5 and 7 and e-mail to T. Hanah, HGL-Austin. |
| 1400 | Look for USG04T; Unable to locate even with metal detector. Grass is short & should be easy to see. |
| 1435 | WITCTA012. PID: 0.0 ppm. DTW: 10.84; TD: 16.92' TOC bgs: -0.53, Custody Seal 0438677. |
| 1450 | Look for MW-58 and MW-59. Wells are not located; |

Location NAS Fort Worth JRB Date 7/20/00 51

Project / Client July 2000 Quarterly

however there is a new concrete pad and above ground diesel fuel tank in former location. Took picture.

1515 WCHMHTA012. PID: 0.0 ppm DTW: 14.67'; TD: 18.99' TOC bgs: -0.40'; Gov't lock. Seal # 0438675

1620 WCHMHTA001. PID: 0.0 ppm DTW: 29.88'; TD: 46.83' TOC bgs: -0.45, Seal #0438678

1645 MW-56; PID: 0.0 ppm; DTW 8.0; TD: 19.65'; TOC bgs -0.34' Seal removed: 0481683; locked w/seal: 0438679

1700 Take pictures of former location of MW-48 & newly concrete pad and above ground diesel fuel tank.

1715 Dispose of purge and decon water at IDW Storage Area.

1800 Leave Site for day.

afternoon

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52 Location NAS Fort Worth JRB Date 7/21/00

Project / Client July 2000 Quarterly IDW Sampling

| | |
|---|---|
| 0730 | Arrive at field office. Load van. |
| 0745 | Health and Safety Meeting |
| 0800 | Arrive at IDW Storage Area. Collect samples of soil and water |
| 0900 | Return to field office, unpack van, pack IDW samples. |
| 1000 | Go to WHGLTA03. PID: 8.2ppm DTW: 6.89'; TD: 11.05' TOC bgs: -0.47, Silty on bottom. Lock w/seal: 0180771 |
| 1010 | Dispose of old unused soil samples in IDW Disposal Area. |
| 1030 | Return to field office, clean up, store well wizards, return PIDs, pack samples |
| 1145 | Leave Site for day |

[illegible]
7/21/00

# APPENDIX A.3

# GROUNDWATER FIELD SAMPLING DATA SHEETS

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | | | |
|---|---|---|---|
| Well No.: GMI-22-06M | | Location: NAS Fort Worth JRB, Texas | |
| Sampler(s): N Hade J Heringer | | Project Name: July 2000 Quarterly Sampling | |
| Well Depth: 26.55 | | Project #: AFC001-33DCA | Date: 7.11.00 Time: ~~1445~~ NH 1450 |
| DTW (ft): * | DTP (ft): NA | Courier: X FedEx ___UPS ___Hand ___Other | |
| MP Ht. Above/Below Ground Surface: 2.55 | | Sampling Method: Low flow | |
| Condition of Bottom of Well: good | | Type of Pump: bladder dedicated | |
| Screen Interval (ft): 16.05 - 26.05 | | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, humid N 100°F | |
| Well Diameter (in): 2 | | | |
| Placement of Pump (ft): top of pump = 19.6 | | | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1450 | * | 0.4 | 0 | 7.01 | 23.55 | 354 | 100.8 | 1.00 | 1.2 | clear |
| 1453 | * | 0.35 | 1.20 | 6.90 | 23.68 | 353 | 94.7 | 0.62 | 0.6 | " |
| 1456 | * | 0.4 | 2.85 | 6.87 | 23.82 | 355 | 91.8 | 0.56 | 0.5 | " |
| 1459 | * | 0.3 | 3.05 | 6.86 | 23.92 | 355 | 87.3 | 0.51 | 0.6 | " |
| 1502 | * | 0.35 | 3.95 | 6.86 | 23.75 | 354 | 85.9 | 0.77 | 0.5 | " |
| 1505 | * | 0.35 | 5.20 | 6.83 | 23.63 | 353 | 86.3 | 0.45 | 0.5 | " |
| 1508 | * | 0.35 | 6.25 | 6.83 | 23.64 | 353 | 86.9 | 0.41 | ~~0.5~~ NH 0.25 | " |
| 1511 | * | 0.40 | 7.30 | 6.82 | 23.59 | 353 | 87.8 | 0.40 | 0.21 | " |
| 1514 | * | collect sample GMI-22-06MW612 | | | | | | | | |

## Observations

Color: (Clear) Other (describe):

Odor: (None) Low Medium High Very Strong H2S Fuel-like

Notes: * water below top of pump

Signed/Sampler(s): [signature] [signature]

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | | | |
|---|---|---|---|
| Well No.: | GMI-22-07M | Location | NAS Fort Worth JRB, Texas |
| Sampler(s): | Nhale J Heiger | Project Name. | July 2000 Quarterly Sampling |
| Well Depth: | 23.29 | Project #: | AFC001-33DCA Date: 7-11-00 Time: 1043 |
| DTW (ft): * | DTP (ft). — | Courier: X FedEx ___UPS ___Hand ___Other | |
| MP Ht. Above/Below Ground Surface. | 2.75 | Sampling Method: | Low flow |
| Condition of Bottom of Well: | good | Type of Pump: | Bladder - dedicated |
| Screen Interval (ft): | 12.75 - 22.75 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): | Sunny, wind to N, 98°F |
| Well Diameter (in): | 2 | | |
| Placement of Pump (ft): | Top at 16.47' | | |

## Field Parameters

| | Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1048 | * | 0.22 | 0 | 7.09 | 25.46 | 321 | 206.7 | 7.10 | 8.0 | Clear |
| 1051 | ~~1052~~ 1051 | * | 0.3 | 0.66 | 6.98 | 24.49 | 298 | 213.8 | 6.99 | 20.0 | " |
| 1054 | ~~1055~~ 1054 | * | 0.3 | 1.56 | 6.92 | 24.05 | 299 | 218.5 | 6.93 | 70.1 | " |
| 1057 | ~~1058~~ 1057 | * | 0.35 | 2.46 | 6.89 | 24.03 | 312 | 215.7 | 4.17 | 43.5 | " |
| 1100 | ~~1102~~ 1100 | * | 0.3 | 3.465 | 6.85 | 25.19 | 321 | 219.2 | 4.11 | 27.0 | " |
| 1103 | ~~1105~~ 1103 | * | 0.4 | 4.365 | 6.85 | 24.10 | 312 | 221.6 | 4.28 | 78.0 | " |
| 1106 | ~~1108~~ 1106 | * | 0.15 | 6.565 | 6.84 | 23.83 | 312 | 223.5 | 4.58 | 75.0 | " |
| 1109 | ~~1111~~ 1109 | * | 0.15 | 6.965 | 6.86 | 24.71 | 319 | ~~241~~ 219 | 4.51 | 50.0 | " |
| | 1112 | * | 0.15 | 7.365 | 6.86 | 25.02 | 322 | ~~322~~ 220.1 | 4.49 | 33.0 | " |
| | 1115 | * | 0.15 | 7.815 | 6.84 | 24.66 | 319 | 222.9 | 4.23 | 24.1 | " |
| | 1118 | * | 0.20 | 8.265 | 6.83 | 24.27 | 315 | 224.5 | 4.12 | 19.2 | " |
| | 1121 | * | 0.25 | 8.915 | 6.81 | 24.17 | 316 | 223.8 | 4.02 | 12.0 | " |
| | 1124 | * | 0.25 | 9.665 | 6.81 | 24.09 | 315 | 225.0 | 4.04 | 9.1 | " |
| | 1127 | * | 0.25 | 10.315 | 6.80 | 24.10 | 317 | 225.3 | 3.99 | 8.2 | " |
| | 1131 | * | 0.25 | 11.065 | 6.80 | 24.30 | 318 | 225.2 | 4.00 | 6.3 | " |
| | 1134 | * | Collect Samples | | | | GMI-22-07MWG12 & MS/MSD | | | | |

## Observations

Color: (Clear) Other (describe):

Odor: (None) Low Medium High Very Strong H2S Fuel-like

Notes: * Below top of pump

Signed/Sampler(s). Nhale Heiger

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: HM-123 | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): J. Wallace, C. Williams | Project Name: July 2000 Quarterly Sampling |
| Well Depth: 38.33' | Project #: AFC001-33DCA Date. 7-12-00 Time: 1139 |
| DTW (ft): 28.9' DTP (ft): – | Courier: ✓ FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: -1.21 | Sampling Method: Grab; Low flow purging |
| Condition of Bottom of Well: | Type of Pump: Bladder - dedicated pump |
| Screen Interval (ft): 20.09 - 40.09 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): |
| Well Diameter (in): 4 | Sunny, Clear, 100°, Wind from SW |
| Placement of Pump (ft): 31.5' | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1139 | 28.90 | ~~0.2~~ 0.15 | 0.0 | 6.45 | 22.99 | 238 | 223 | 0.31 | 2.01 | |
| 1142 | 28.90 | 0.2 | 0.45 | 6.51 | 22.89 | 235 | 216 | 0.26 | 2.39 | |
| 1145 | 28.90 | 0.2 | 1.05 | 6.55 | 22.72 | 233 | 211 | 0.22 | 2.35 | |
| 1148 | 28.90 | 0.2 | 1.65 | 6.58 | 22.55 | 232 | 203 | 0.19 | 1.83 | |
| 1151 | 28.90 | 0.2 | 2.25 | 6.64 | 22.38 | 232 | 194 | 0.17 | 2.42 | |
| 1154 | 28.90 | 0.2 | 2.85 | 6.62 | 22.47 | 232 | 193 | 0.16 | 1.97 | |
| 1157 | Collect samples. | | | | | | | | | |

## Observations

Color: (Clear) Other (describe): Clear

Odor: (None) Low Medium High Very Strong H2S Fuel-like None

Notes:

Signed/Sampler(s). C. Williams J. Wall

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: HM-126 | Location: NAS Fort Worth JRB |
| Sampler(s): ~~Williams~~, J. Wallace (Made corrections) | Project Name: Quarterly Groundwater Sampling |
| Well Depth: 35.82 | Project #: AFC-001-~~28~~ 33 DCA Date: 7/20/00 Time: 0945 |
| DTW (ft): 16.56 DTP (ft): — | Courier: X FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: | Sampling Method: LOW FLOW |
| Condition of Bottom of Well: good | Type of Pump: Bladder - non dedicated |
| Screen Interval (ft): | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, , ~~83°~~ 102°F, humid, wind to N |
| Well Diameter (in): 4" | |
| Placement of Pump (ft): top 23.36 | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 9:55 | 16.55 | .1 | | 6.73 | 26.12 | 226.00 | 167.1 | 2.77 | 3.74 | |
| 9:58 | 16.55 | .1 | | 6.67 | 25.56 | 219.00 | 163.6 | 2.52 | 3.96 | |
| 10:01 | 16.55 | .1 | | 6.68 | 25.24 | 216.00 | 161.9 | 2.39 | 2.59 | |
| 10:04 | 16.55 | .1 | | 6.71 | 24.80 | 212.00 | 158.6 | 2.26 | 2.41 | |
| 10:07 | 16.54 | .1 | | 6.72 | 24.63 | 211.00 | 158.3 | 2.21 | 2.36 | |
| 10:10 | 16.54 | .1 | | 6.75 | 24.33 | 209.00 | 156.4 | 2.09 | 2.42 | |
| ~~10:13~~ | COLLECT SAMPLE | | | | | | | | | |

## Observations

Color: (Clear) Other (describe):

Odor: (None) Low Medium High Very Strong $H_2S$ Fuel-like

Notes:

Signed Sampler(s): [illegible]

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: ITMW-01T | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): N. Hade / J. Wallace | Project Name July 2000 Quarterly Sampling |
| Well Depth. | Project #: AFC001-33DCA Date: 7/13/00 Time: 0815 |
| DTW (ft): 14.32 DTP (ft): 17.2 Jun None | Courier. X FedEx ___UPS ___Hand ___Other |
| MP Ht. Above/Below Ground Surface: -0.3 | Sampling Method : Low Flow |
| Condition of Bottom of Well: N/A | Type of Pump: short bladder - dedicated |
| Screen Interval (ft): 12 - 22 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): |
| Well Diameter (in): 4 | Partly sunny, NE, 88° |
| Placement of Pump (ft): pulled to confirm 17.2 - inlet | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 0823 | 14.30 | 0.2 | 0 | 6.33 | 22.19 | 383.00 | 265.2 | 1.52 | 2.54 | |
| 0826 | 14.28 | 0.2 | 0.6 | 6.37 | 21.78 | 377.00 | 262.6 | 0.80 | 1.01 | |
| 0829 | 14.30 | 0.2 | 1.2 | 6.44 | 21.55 | 374.00 | 258.4 | 0.51 | 0.60 | |
| 0832 | 14.30 | 0.2 | 1.8 | 6.47 | 21.44 | 372.00 | 254.8 | 0.41 | 0.59 | |
| 0835 | 14.30 | 0.2 | 2.4 | 6.50 | 21.38 | 372.00 | 251.1 | 0.36 | 0.45 | |
| 0838 | 14.30 | 0.2 | 3.0 | 6.53 | 21.29 | 371.00 | 246.8 | 0.30 | 0.48 | |
| 0841 | 14.30 | 0.2 | 3.6 | 6.54 | 21.30 | 370.00 | 243.1 | 0.27 | 0.22 | |
| 0844 | 14.30 | 0.2 | 4.2 | 6.56 | 21.28 | 370.00 | 237.6 | 0.25 | 0.19 | |
| 0845 | collect samples | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

## Observations

Color: Clear Other (describe): clear

Odor. None Low Medium High Very Strong H2S Fuel-like none

Notes.

Signed/Sampler(s): J Wall N Hade

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No : LF03-3D | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): C. Williams, J. Wallace | Project Name: July 2000 Quarterly Sampling |
| Well Depth: | Project #: AFC001-33DCA Date: 7/12/00 Time: 1346 |
| DTW (ft). * DTP (ft): N/A | Courier. X FedEx ___UPS ___Hand ___Other |
| MP Ht Above/Below Ground Surface: 3.65 | Sampling Method : ~~Bladder~~ Low Flow |
| Condition of Bottom of Well: Good | Type of Pump: Bladder - dedicated |
| Screen Interval (ft): 11.15 - 18.05 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): |
| Well Diameter (in): 2 | Sunny, N, 99°! |
| Placement of Pump (ft): 15.55' | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1349 | * | 0.2 | 0 | 6.92 | 23.87 | 343 | 186.0 | 2.81 | 36.4 | |
| 1352 | | 0.4 | 0.6 | 6.75 | 24.14 | 351 | 194.7 | 2.95 | 14.98 | |
| 1355 | | 0.15 | 1.8 | 6.73 | 24.96 | 358 | 195.4 | 3.07 | 9.75 | |
| 1358 | | 0.15 | 2.25 | 6.74 | 25.38 | 362 | 189.1 | 3.32 | 7.70 | |
| 1401 | | 0.15 | 2.70 | 6.71 | 25.44 | 360 | 191.9 | 3.31 | 8.67 | |
| 1404 | | 0.15 | 3.15 | 6.71 | 25.40 | 359 | 192.0 | 3.39 | 6.46 | |
| 1407 | | 0.10 | 3.60 | 6.69 | 25.55 | 360 | 191.6 | 3.43 | 4.79 | |
| 1409 | collect samples | | | | | | | | | |

## Observations

Color: Clear Other (describe): Clear

Odor. None Low Medium High Very Strong H2S Fuel-like none

Notes: * DTW below TOP

Signed/Sampler(s). C Williams J Wallace

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: LF05-01 | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): NHade, J. Wallace | Project Name: July 2000 Quarterly Sampling |
| Well Depth: | Project # AFC001-33DCA Date: 7/13/00 Time: 1432 |
| DTW (ft): below top of pump DTP (ft). — | Courier X FedEx ___UPS ___Hand ___Other |
| MP Ht. Above/Below Ground Surface: 2.66 | Sampling Method : LOW FLOW |
| Condition of Bottom of Well: | Type of Pump: Bladder - dedicated |
| Screen Interval (ft). 17.61 - 27.36 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): |
| Well Diameter (in). 2 | sunny, NE, 105°F |
| Placement of Pump (ft). 17' | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1440 | *0.9 | 0.1 | 0 | 6.74 | 28.86 | 427 | -79.5 | 3.96 | 50.6 | |
| 1445 | | 0.1 | 0.5 | 6.70 | 29.12 | 441 | -87.1 | 3.90 | 61.8 | |
| 1450 | | 0.17 | 1.5 | 6.65 | 29.02 | 493 | -100.9 | 3.30 | 50.5 | |
| 1455 | | 0.17 | 2.35 | 6.63 | 29.00 | 522 | -108.3 | 3.01 | 42.8 | |
| 1500 | | 0.17 | 3.20 | 6.65 | 26.78 | 514 | -111.7 | 2.47 | 58.3 | |
| 1505 | | 0.17 | 4.05 | 6.54 | 26.20 | 515 | -115.2 | 2.12 | 47.7 | |
| 1510 | | 0.17 | 4.56 | 6.52 | 25.95 | 515 | -117.5 | 1.92 | 40.8 | |
| 1515 | | 0.17 | 5.07 | 6.53 | 26.59 | 522 | -121.3 | 1.69 | 42.5 | |
| 1520 | | 0.17 | 5.58 | 6.46 | 24.85 | 501 | -121.5 | 1.44 | 41.6 | |
| 1525 | | 0.2 | 6.43 | 6.41 | 23.88 | 492 | -122.8 | 1.14 | 42.9 | |
| 1530 | | 0.2 | 7.43 | 6.42 | 24.13 | 489 | -125.1 | 0.99 | 43.6 | |
| 1535 | | 0.2 | 8.43 | 6.43 | 24.08 | 487 | -125.2 | 0.89 | 44.4 | |
| 1540 | | 0.2 | 9.43 | 6.44 | 24.19 | 485 | -127.1 | 0.81 | 43.2 | |
| 1545 | collect samples | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

## Observations

Color: Clear Other (describe): clear w/ rust particles

Odor: None Low Medium High Very Strong H2S Fuel-like none

Notes: * water is below top of pump

Signed/Sampler(s). JWall NHade

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: LF05-5G | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): Wade J. Hedges | Project Name: July 2000 Quarterly Sampling |
| Well Depth. – | Project #: AFC001-33DCA Date: 7.11.00 Time: 0806 |
| DTW (ft): * DTP (ft): NA | Courier: X FedEx ___UPS ___Hand ___Other |
| MP Ht. Above/Below Ground Surface: 3.39 | Sampling Method : lowflow |
| Condition of Bottom of Well: – | Type of Pump: bladder dedicated |
| Screen Interval (ft): 17.64 - 29.39 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, wind to the North 85°F |
| Well Diameter (in): 2 | |
| Placement of Pump (ft): top of pump 21.7 | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 0843 | * | 0.25 | 0 | 6.44 | 22.17 | 321.0 | 130.9 | 1.50 | 6.0 | clear |
| 0846 | * | 0.15 | 0.75 | 6.42 | 22.63 | 324.0 | 64.4 | 1.18 | 3.8 | " |
| 0849 | * | 0.1 | 1.20 | 6.48 | 23.48 | 331.0 | 31.2 | 1.16 | 1.8 | " |
| 0852 | * | 0.1 | 1.50 | 6.54 | 24.03 | 333.0 | 24.5 | 1.23 | 1.7 | " |
| 0855 | * | 0.1 | 1.80 | 6.58 | 24.23 | 335.0 | 23.3 | 1.23 | 1.6 | " |
| 0858 | * | 0.1 | 2.10 | 6.61 | 24.11 | 334.0 | 24.09 | 1.23 | 1.6 | " |
| 0901 | * | 0.1 | 2.40 | 6.63 | 24.01 | 332.0 | 24.02 | 1.23 | 1.6 | " |
| 0904 | collect sample | | | | LF05-5GWG12 | | | | | |
| | | | | | DUP02WG12 | | | | | |

## Observations

Color: Clear Other (describe):

Odor. None Low Medium High Very Strong H2S Fuel-like

Notes: * Below top of pump

Signed/Sampler(s): [signature]

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: MW-53 | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): N Hade J Heninger | Project Name: July 2000 Quarterly Sampling |
| Well Depth: 19.54 | Project #: AFC001-33DCA Date: 7·12·00 Time: 1115 |
| DTW (ft): 16.41 DTP (ft): NA | Courier: X FedEx ___UPS ___Hand ___Other |
| MP Ht. Above/Below Ground Surface -0.5 | Sampling Method: Low flow |
| Condition of Bottom of Well: | Type of Pump: dedicated bladder |
| Screen Interval (ft): - | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, humid, wind to NE, 96°F |
| Well Diameter (in): 4 | |
| Placement of Pump (ft): * cannot be determined | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1120 | 16.55 | 0.1 | 0 | 7.07 | 23.06 | 187.0 | 143.1 | 5.92 | 1.4 | clear |
| 1123 | 16.50 | 0.1 | 0.3 | 7.00 | 24.02 | 193.0 | 166.1 | 5.46 | 0.9 | " |
| 1126 | 16.51 | 0.15 | 0.6 | 6.95 | 23.74 | 200.0 | 186.8 | 4.52 | 0.5 | " |
| 1129 | 16.55 | 0.15 | 1.05 | 6.93 | 23.42 | 200.0 | 203.2 | 4.10 | 1.3 | " |
| 1132 | 16.57 | 0.15 | 1.50 | 6.93 | 22.65 | 197.0 | 214.5 | 4.09 | 1.2 | " |
| 1135 | 16.60 | 0.20 | 1.95 | 6.94 | 22.39 | 196.0 | 223.4 | 3.94 | 1.0 | " |
| 1138 | 16.63 | 0.20 | 2.55 | 6.95 | 22.33 | 195.0 | 233.1 | 4.00 | 1.1 | " |
| 1141 | collect Sample | | | | MW-53WG12 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| | | | | | | | | | | |

## Observations

Color (Clear) Other (describe):

Odor: (None) Low Medium High Very Strong H2S Fuel-like

Notes.

Signed/Sampler(s): [signature]

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: SPOT35-5 | Location: NAS Fort Worth JRB, Texas |
| Sampler(s) N. Hade, J. Wallace | Project Name: July 2000 Quarterly Sampling |
| Well Depth: 29.70 | Project #: AFC001-33DCA Date 7/13/00 Time: 1050 |
| DTW (ft): 22.67 DTP (ft): — | Courier: X FedEx ___UPS ___Hand ___Other |
| MP Ht. Above/Below Ground Surface: -0.15 | Sampling Method: LOW FLOW |
| Condition of Bottom of Well: good | Type of Pump: Bladder - dedicated |
| Screen Interval (ft): 16.45 - 26.45 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): sunny; NE; 95° |
| Well Diameter (in): .4" | |
| Placement of Pump (ft). * | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1106 | 23.28 | 0.1 | 0 | 6.68 | 30.33 | 515 | -118.3 | 0.78 | 11.01 | |
| 1109 (gw) | 23.26 | 0.1 | 0.3 | 6.66 | 28.86 | 505 | -122.5 | 0.57 | 10.80 | |
| 1112 (23.36) | ~~23.26~~ | 0.1 | 0.6 | 6.65 | 27.46 | 496 | -124.9 | 0.45 | 10.28 | |
| 1115 (23.42) | ~~23.26~~ | 0.1 | 0.9 | 6.63 | 26.30 | 488 | -127.3 | 0.33 | 7.21 | |
| 1118 | 23.58 | 0.1 | ~~1.20~~ 1.2 | 6.62 | 25.85 | 487 | -129.2 | 0.29 | 5.64 | |
| 1121 | 23.59 | 0.1 | 1.5 | 6.62 | 25.23 | 482 | -130.2 | 0.29 | 5.59 | |
| 1124 | 23.61 | 0.1 | 1.8 | 6.61 | 25.29 | 482 | -131.0 | 0.27 | 5.18 | |
| 1129 | Collect sample. | | | | | | | | | |

## Observations

Color: Clear Other (describe): clear w/ small rust particulates

Odor: None Low Medium High Very Strong H2S Fuel-like none

Notes: * Cannot be determined 4" well.
slight BTEX odor as we were 10 minutes into ~~sampling~~ purging. (gw)

Signed/Sampler(s) J Wall N Hade

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: USGS07T | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): N Hale L Morgan | Project Name: July 2000 Quarterly Sampling |
| Well Depth: 15.16 | Project #: AFC001-33DCA Date: 7.12.00 Time: 1336 |
| DTW (ft): * DTP (ft): NA | Courier: X FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: -1.34 | Sampling Method: lowflow |
| Condition of Bottom of Well: good | Type of Pump: dedicated bladder |
| Screen Interval (ft): 10.16 - 15.16 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, humid, NE, 100°F |
| Well Diameter (in): 2 | |
| Placement of Pump (ft): top of pump = 10.4 | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1339 | * | 0.18 | 0 | 6.95 | 25.33 | 209 | 164.5 | 3.95 | 170 | cloudy |
| 1342 1344 | * | 0.15 | 0.54 | 6.93 | 25.01 | 207 | 184.3 | 3.72 | 123 | " |
| 1345 | * | 0.2 | 0.99 | 6.91 | 24.59 | 206 | 204.7 | 3.50 | 77 | clearing |
| 1348 | * | 0.2 | 1.59 | 6.89 | 24.38 | 205 | 216.9 | 3.42 | 55 | " |
| 1351 | * | 0.23 | 2.19 | 6.88 | 23.85 | 203 | 228.2 | 3.29 | 42 | " |
| 1354 | * | 0.30 | 2.88 | 6.88 | 23.66 | 201 | 243.4 | 3.13 | 31 | " |
| 1357 | * | 0.28 | 3.78 | 6.87 | 23.58 | 201 | 246.4 | 3.13 | 28 | " |
| 1400 | * | 0.32 | 4.62 | 6.87 | 23.57 | 201 | 252.6 | 3.20 | 23 | " |
| 1403 | * | 0.35 | 5.58 | 6.86 | 23.49 | 200 | 261.2 | 3.30 | 34 | " |
| 1406 | * | 0.25 | 6.63 | 6.86 | 23.61 | 200 | 265.6 | 3.28 | 30 | " |
| 1409 | * | 0.28 | 7.38 | 6.86 | 23.60 | 201 | 271.5 | 3.25 | 32 | " |
| 1412 | * | 0.29 | 8.22 | 6.85 | 23.62 | 201 | 277.1 | 3.24 | 27 | " |
| 1415 | * | 0.27 | 9.09 | 6.85 | 23.48 | 201 | 279.4 | 3.28 | 23 | " |
| 1418 | * | 0.30 | 9.70 | 6.85 | 23.54 | 201 | 283.4 | 3.32 | 17 | " |
| 1421 | * | 0.29 | 10.60 | 6.85 | 23.59 | 201 | 285.6 | 3.36 | 17 | " |
| 1424 | * | 0.30 | 11.47 | 6.85 | 23.53 | 200 | 288.1 | 3.36 | 18 | " |

1427 * collect sample USGS07TW612

## Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes: * water is below top of pump

Signed/Sampler(s): [signature] L. Morgan

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | | | |
|---|---|---|---|
| Well No.: | W-153 | Location: | NAS Fort Worth JRB, Texas |
| Sampler(s): | J. Wallace, C. Williams | Project Name: | July 2000 Quarterly Sampling |
| Well Depth: | 3 | Project #: | AFC001-33DCA Date: 7-12-00 Time: 1537 |
| DTW (ft): | 22.43' DTP (ft): | Courier: | ✓ FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: | -0.13 | Sampling Method: | Grab; low flow |
| Condition of Bottom of Well. | | Type of Pump: | Bladder - dedicated |
| Screen Interval (ft): | 29.77 - 39.27 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): | Sunny, Clear, Wind from SW, 100° |
| Well Diameter (in): | 2" | | |
| Placement of Pump (ft): | 34.52' (intake) | | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1537 | 22.47 | 0.1 | 0.0 | 6.84 | 25.90 | 252 | 170 | 3:48 | 9.23 | |
| 1540 | 22.44 | 0.2 | 0.3 | 6.63 | 25.37 | 249 | 178 | 3.33 | 7.05 | |
| 1543 | 22.45 | 0.2 | 0.9 | 6.46 | 24:55 | 246 | 181 | 3.29 | 7.85 | |
| 1546 | 22.46 | 0.2 | 1.2 | 6.38 | 24.21 | 243 | 180 | 3.34 | 8.72 | |
| 1549 | 22.46 | 0.2 | 1.8 | 6.30 | 24.07 | 243 | 177 | 3.43 | 6.69 | |
| 1555 | Collect samples | | | | | | | | | |

## Observations

Color: (Clear) Other (describe): Clear

Odor: (None) Low Medium High Very Strong H2S Fuel-like None

Notes:

Signed/Sampler(s) C. Williams, J. Wall

692 170.

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No : WHGLRW015 | Location: NAS Fort Worth JRB, Texas |
| npler(s): C. Williams, J. Heringer | Project Name: July 2000 Quarterly Sampling |
| Well Depth: 23.5' | Project #: AFC001-33DCA Date. 7-10-00 Time: 1503 |
| DTW (ft): 15.55' DTP (ft): — | Courier: ✓ FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: 0 | Sampling Method : Grab; low flow purging |
| Condition of Bottom of Well: — | Type of Pump: Bladder pump - dedicated |
| Screen Interval (ft): 13.5 - 23.5 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): |
| Well Diameter (in): 4" | Surmy, Clear, 100°, Wind From SE. |
| Placement of Pump (ft): 19.3' - top of pump | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1503 | 15.56 | ~~0.20~~ 0.4 | 0.0 | 6.38 | 21.37 | 402 | 248 | 4.14 | ~~0.3~~ 0 | 3.0 NTU |
| 1506 | 15.56 | 0.3 | 1.2 | 6.37 | 21.66 | 404 | 277 | 3.72 | 2.20 | |
| 1509 | 15.56 | 0.3 | 2.1 | 6.37 | 21.50 | 403 | 286 | 3.59 | 1.30 | |
| 1512 | 15.55 | 0.3 | 3.0 | 6.37 | 21.54 | 402 | 296 | 3.31 | 0.90 | |
| 1515 | 15.55 | 0.3 | 3.9 | 6.40 | 21.60 | 403 | 299 | 3.18 | 1.70 | |
| 1518 | 15.55 | 0.3 | 4.8 | 6.38 | 21.52 | 402 | 304 | 3.18 | 1.40 | |
| 1520 | Collect samples | | | | | | | | | |

## Observations

Color: (Clear) Other (describe): Clear

Odor: (None) Low Medium High Very Strong H2S Fuel-like None

Notes:

Signed/Sampler(s): C. Williams, [illegible]

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No. ~~WHGLT.A026~~ WHGLRW017 | Location: NAS Fort Worth JRB |
| Sampler(s): J. Wallace, C Williams | Project Name: ~~AOC 1~~ July 2000 Quarterly |
| Well Depth: 23.9' | Project #: AFC001-~~16BBU~~ 33DCA Date: 7-14-00 Time: 0952 |
| DTW (ft): 16.5' DTP (ft): – | Courier: ✓ FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: | Sampling Method: Grab; Low Flow |
| Condition of Bottom of Well: Silty | Type of Pump: Bladder - non dedicated |
| Screen Interval (ft): 13.9'-23.9' | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, Clear, 90° |
| Well Diameter (in): 4" | |
| Placement of Pump (ft): 20.2 (intake) | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 0952 | 16.5 | 0.1 | 0.0 | 6.66 | 22.67 | 333 | 218 | 4.38 | 4.0 | |
| 0955 | 16.5 | 0.15 | 0.3 | 6.66 | 22.74 | 334 | 221 | 4.34 | 4.15 | |
| 0958 | 16.5 | 0.15 | 0.75 | 6.66 | 22.71 | 333 | 222 | 4.29 | 5.97 | |
| ~~0904~~ 1001 | 16.5 | 0.15 | 1.20 | 6.67 | 22.47 | 332 | 224 | 4.25 | 8.04 | |
| 1004 | 16.5 | 0.15 | 1.65 | 6.67 | 22.43 | 331 | 227 | 4.22 | 8.10 | |
| 1010 | Collect samples. | | | | | | | | | |
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## Observations

Color: (Clear) Other (describe): Clear

Odor: (None) Low Medium High Very Strong H2S Fuel-like None

Notes:

Signed/Sampler(s): C. Williams

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No : WHGLTA011 | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): N. Hade, J. Wallace | Project Name: July 2000 Quarterly Sampling |
| Well Depth: 16.7 | Project #: AFC001-33DCA Date: 7/13/00 Time: 0945 |
| DTW (ft): 11.98' DTP (ft): — | Courier: X FedEx ___UPS ___Hand ___Other |
| MP Ht. Above/Below Ground Surface: 1.93 | Sampling Method : LOW FLOW |
| Condition of Bottom of Well: N/A | Type of Pump: BLADDER - dedicated |
| Screen Interval (ft): 5.43 - 16.93 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): |
| Well Diameter (in): 2 | sunny, NE, 90° |
| Placement of Pump (ft): Inlet 13.9' | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 0949 | 12.01 | 0.2 | 0 | 6.89 | 24.64 | 570. | 230.5 | 1.98 | 12.1 | |
| 0952 | 12.02 | 0.2 | 0.6 | 6.88 | 24.70 | 572 | 230.1 | 1.62 | 7.83 | |
| 0955 | 12.02 | 0.2 | 1.2 | 6.88 | 24.71 | 573 | 228.3 | 1.42 | 6.10 | |
| 0958 | 12.02 | 0.18 | 1.8 | 6.88 | 24.59 | 572 | 225.5 | 1.27 | 8.78 | |
| 1001 | 12.02 | 0.18 | 2.34 | 6.89 | 24.60 | 572 | 223.1 | 1.19 | 7.07 | |
| 1004 | 12.02 | 0.18 | 2.88 | 6.90 | 24.70 | 573 | 218.6 | 1.10 | 4.77 | |
| 1006 | collect | sample. | | | | | | | | |
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## Observations

Color: (Clear) Other (describe): Clear

Odor: (None) Low Medium High Very Strong H2S Fuel-like none

Notes:

Signed/Sampler(s): J Wallace

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | | | |
|---|---|---|---|
| Well No.: | WHGLTA025 | Location: | NAS Fort Worth JRB, Texas |
| Sampler(s): | C. Williams, J. Heringer | Project Name: | July 2000 Quarterly Sampling |
| Well Depth: | 20.8 | Project #: | AFC001-33DCA Date: 7/10/00 Time: 1320 |
| DTW (ft): 16.6 | DTP (ft): NA | Courier: | X FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: | 0 | Sampling Method: | low-flow |
| Condition of Bottom of Well: | N/A | Type of Pump: | dedicated bladder |
| Screen Interval (ft): | 10.5 - 20.5 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): | Sunny, Clear, 100°, Wind from SE. |
| Well Diameter (in): | 2 | | |
| Placement of Pump (ft): | 18.5 inlet (ded. pump set at 19.5 - raised one foot) | | |

## Field Parameters

| Time (24 hr) | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1331 ~~1531~~ ~~1320~~ | * | 0.3 | 0.0 | 6.73 | 21.3 | 286 | 236 | 5.37 | 52 | |
| 1334 ~~1534~~ | * | 0.3 | 0.9 | 6.71 | 21.03 | 280 | 255 | 5.43 | 22 | |
| 1337 ~~1537~~ | * | 0.3 | 1.8 | 6.71 | 20.97 | 279 | 266 | ~~5.47~~ 5.49 | 14 | (DO: 5.49 mg/L) |
| 1340 ~~1540~~ | * | 0.3 | 2.7 | 6.71 | 20.96 | 279 | 273 | 5.47 | 10 | |
| 1343 ~~1543~~ | * | 0.3 | 3.6 | 6.71 | 20.91 | 279 | 280 | 5.42 | 7.5 | |
| 1346 ~~1546~~ | * | 0.3 | 4.5 | 6.72 | 20.91 | 279 | 287 | 5.26 | 5.4 | |
| 1349 ~~1549~~ | * | 0.3 | 5.4 | 6.72 | 20.90 | 279 | 288 | 5.43 | 5.1 | |
| 1355 ~~1555~~ | Collect samples. | | | | | | | | | |

## Observations

Color: Clear Other (describe). Clear

Odor: None Low Medium High Very Strong H2S Fuel-like None

Notes: * Unable to measure depth to water; water level below top of pump

Signed/Sampler(s) C. Williams

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | | | |
|---|---|---|---|
| Well No.: | WITCTA004 | Location | NAS Fort Worth JRB, Texas |
| Sampler(s): | NHade, J Wallace | Project Name | July 2000 Quarterly Sampling |
| Well Depth: | 18.56 | Project #: AFC001-33DCA | Date: 7.~~18~~13.00 Time: ~~1247~~ 1310 |
| DTW (ft): * | DTP (ft): NA | Courier: X FedEx ___UPS ___Hand ___Other | |
| MP Ht. Above/Below Ground Surface: | -0 35 | Sampling Method : ~~B~~ NH Low Flow | |
| Condition of Bottom of Well: | | Type of Pump: Bladder - dedicated | |
| Screen Interval (ft): | 10.95 - 18.2 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, 97°F, humid with wind to the N. | |
| Well Diameter (in): | 2 | | |
| Placement of Pump (ft): | top = 12.55 inlet = ~~14.50~~ 14.0 NH | | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1315 | * | 0.1 | 0 | 6.72 | 26.90 | 482 | 88.8 | 0.84 | 50.5 | clear |
| 1318 | * | 0.1 | 0.3 | 6.69 | 27.46 | 494 | 83.2 | 0.79 | 41.4 | " |
| 1321 | * | 0.1 | 0.6 | 6.63 | 28.89 | 519 | 58.1 | 0.74 | 29.2 | " |
| 1324 | * | 0.05 | 0.9 | 6.63 | 29.59 | 533 | 21.1 | 0.70 | 20.9 | " |
| 1327 | * | 0.2 | 1.35 | 6.65 | 30.24 | 549 | -16.5 | 0.67 | 11.3 | " |
| 1330 | * | 0.17 | 1.95 | 6.63 | 28.39 | 529 | -43.4 | 0.59 | 7.1 | " |
| 1333 | * | 0.17 | 2.46 | 6.61 | 27.04 | 523 | -61.2 | 0.47 | 4.8 | " |
| 1336 | * | 0.2 | 2.96 | 6.60 | 26.82 | 525 | -72.2 | 0.40 | 3.9 | " |
| 1339 | * | 0.2 | 3.56 | 6.60 | 26.65 | 526 | -81.2 | 0.34 | 3.0 | " |
| 1342 | * | 0.2 | 4.16 | 6.60 | 26.57 | 524 | -88.8 | 0.34 | 2.4 | " |
| 1345 | * | collect sample WITCTA004 | | | | | | | | |
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## Observations

Color: (Clear) Other (describe):

Odor (None) Low Medium High Very Strong H2S Fuel-like

Notes: * Below top of pump

Signed/Sampler(s). NHade, JWall

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: WITCTA010 | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): N Hade J Heringer | Project Name: July 2000 Quarterly Sampling |
| Well Depth: 18.47 | Project #: AFC001-33DCA Date: 7.11.00 Time: 1340 |
| DTW (ft): * DTP (ft): NA | Courier: X FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: -0.43 | Sampling Method: Low flow |
| Condition of Bottom of Well: | Type of Pump: Bladder dedicated |
| Screen Interval (ft): 10.97 - 18.22 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, humid, wind to N., 98 °F |
| Well Diameter (in): 2 | |
| Placement of Pump (ft): top at 14.8 | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 1342 | * | 0.3 | 0 | 7.28 | 25.38 | 229.0 | -174.3 | 0.26 | 8.7 | clear |
| 1345 | * | 0.15 | 0.9 | 7.21 | 26.08 | 230.0 | -173.8 | 0.26 | 5.9 | " |
| 1348 | * | 0.20 | 1.35 | 7.10 | 28.43 | 229.0 | -173.4 | 0.27 | 3.8 | " |
| 1351 | * | 0.05 | 1.95 | 7.11 | 28.80 | 243.0 | -173.2 | 0.28 | 2.2 | " |
| 1354 | * | 0.20 | ~~2.05~~ NR 2.105 | 7.10 | 26.72 | 231.0 | -174.3 | 0.19 | 2.1 | " |
| 1357 | * | 0.20 | 2.70 | 7.06 | 25.64 | 226.0 | -174.7 | 0.16 | 1.0 | " |
| 1400 | * | 0.25 | 3.45 | 7.05 | 25.71 | 226.0 | -175.2 | 0.14 | 1.0 | " |
| 1403 | collect | sample | | WITCTA010WG2 | | | | | | |
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## Observations

Color: Clear Other (describe):

Odor. None Low Medium High Very Strong H2S Fuel-like

Notes: * Water is below top of pump

Signed/Sampler(s): [signature]

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No : WITCTA017 | Location NAS Fort Worth JRB, Texas |
| Sampler(s): N Hade J Heringer | Project Name: July 2000 Quarterly Sampling |
| Well Depth: 13.90 | Project #: AFC001-33DCA Date: 7.12.00 Time: 0835 |
| DTW (ft): * DTP (ft): NA | Courier: X FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface: -0 1 | Sampling Method: Low Flow |
| Condition of Bottom of Well: | Type of Pump: dedicated bladder |
| Screen Interval (ft). 6.5 - 13.75 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, wind to N, 92°F, humid |
| Well Diameter (in). 2 | |
| Placement of Pump (ft) top of pump = 9.25' | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb. (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 0845 | * | 0.25 | 0 | 6.91 | 23.69 | 287 | 262.1 | 5.44 | 70.0 | Slightly cloudy |
| 0848 | * | 0.2 | 0.75 | 6.88 | 23.63 | 268 | 264.6 | 5.14 | 79.0 | " |
| 0851 | * | 0.25 | 1.35 | 6.88 | 23.51 | 260 | 265.8 | 5.01 | 38.0 | clear |
| 0854 | * | 0.2 | 2.10 | 6.87 | 23.70 | 257 | 266.0 | 4.65 | 17.2 | " |
| 0857 | * | 0.2 | 2.70 | 6.87 | 23.71 | 256 | 267.9 | 4.35 | 9.2 | " |
| 0900 | * | 0.2 | 3.30 | 6.87 | 23.64 | 256 | 268.2 | 4.20 | 5.2 | " |
| 0903 | * | 0.2 | 3.90 | 6.87 | 23.57 | 256 | 268.8 | 4.18 | 3.2 | |
| 0906 | * | collect sample | | | WITCTA017WG12 | | | | | |
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## Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes: * water is below top of pump

Signed/Sampler(s) [signature]

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# GROUNDWATER FIELD SAMPLING DATA SHEET

| | | | |
|---|---|---|---|
| Well No. | WITCTA024 | Location: | NAS Fort Worth JRB, Texas |
| Sampler(s): | N Hade J Heringer | Project Name | July 2000 Quarterly Sampling |
| Well Depth: | 23.23 | Project #: | AFC001-33DCA Date: 7.12.00 Time: 0945 |
| DTW (ft): 17.35 | DTP (ft): | Courier: | X FedEx ___UPS ___Hand ___Other |
| MP Ht Above/Below Ground Surface: | -0.47 | Sampling Method : | Low Flow |
| Condition of Bottom of Well: | | Type of Pump: | dedicated ~~[illegible]~~ OH bladder |
| Screen Interval (ft): | 12.76 - 22.51 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature) | Sunny, humid, wind to NE 94°F |
| Well Diameter (in). | 2 | | |
| Placement of Pump (ft): | top of pump 17.6' | | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp (C) | Cond (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 0954 | 17.36 | 0.25 | 0 | 6.93 | 25.01 | 330 | -77.4 | 5.25 | 14.7 | clear |
| 0957 | 17.37 | 0.25 | 0.75 | 6.97 | 24.29 | 325 | -73.5 | 3.95 | 10.5 ~~2.5~~ NH | " |
| 1000 | 17.37 | 0.3 | 1.50 | 6.98 | 23.97 | 323 | -71.7 | 2.91 | 8.0 | " |
| 1003 | 17.37 | 0.3 | 2.40 | 6.99 | 23.92 | 322 | -70.8 | 2.23 | 5.8 | " |
| 1006 | 17.37 | 0.35 | 3.30 | 6.97 | 23.72 | 320 | -79.3 | 1.71 | 3.6 | " |
| 1009 | 17.37 | 0.35 | 4.35 | 6.97 | 23.66 | 320 | -88.7 | 1.38 | 3.4 | " |
| 1012 | 17.37 | 0.40 | 5.40 | 6.98 | 23.62 | 320 | -87.8 | 1.19 | 2.3 | " |
| 1015 | 17.37 | 0.40 | 6.60 | 6.99 | 23.64 | 320 | -83.9 | 1.03 | 2.1 | " |
| 1018 | 17.39 | 0.40 | 7.80 | 6.99 | 23.64 | 320 | -76.3 | 0.93 | 1.9 | " |
| 1021 | 17.39 | 0.40 | 9.00 | 6.99 | 23.55 | 319 | -73.4 | 0.84 | 1.4 | " |
| 1024 | collect sample | | | WITCTA024WG-12 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

## Observations

Color: (Clear) Other (describe):

Odor: (None) Low Medium High Very Strong H2S Fuel-like

Notes:

Signed/Sampler(s): N Hade J Heringer

# GROUNDWATER FIELD SAMPLING DATA SHEET

| | |
|---|---|
| Well No.: WJETA535 | Location: NAS Fort Worth JRB, Texas |
| Sampler(s): N Hache J Hesinger | Project Name: July 2000 Quarterly Sampling |
| Well Depth: — | Project #: AFC001-33DCA Date: 7-11-00 Time 0945 |
| DTW (ft). * DTP (ft): NA | Courier: X FedEx ___ UPS ___ Hand ___ Other |
| MP Ht. Above/Below Ground Surface. -0.21 | Sampling Method . Low flow |
| Condition of Bottom of Well: — | Type of Pump: Bladder dedicated |
| Screen Interval (ft): 33.14 - 42.14 | Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, wind to N, 92°F |
| Well Diameter (in): 2 | |
| Placement of Pump (ft). top of pump 34.55 | |

## Field Parameters

| Time | Depth to Water (ft) | Flow Rate (L/m) | Total Volume (L) | pH | Temp. (C) | Cond. (umhos/cm) | ORP (mv) | DO (mg/L) | Turb (NTU) | Type, Size, and Amount of Sediment Discharged |
|---|---|---|---|---|---|---|---|---|---|---|
| 0948 | * | 0.2 | 0 | 6.92 | 21.62 | 249 | 182.4 | 5.82 | 22.3 | clear |
| 0952 | * | 0.15 | 0.6 | 6.85 | 23.65 | 259 | 191.7 | 5.85 | 19.2 | " |
| 0955 | * | 0.25 | 0.9 | 6.84 | 22.43 | 254 | 197.3 | 5.85 | 12.6 | " |
| 0958 | * | 0.25 | 1.65 | 6.82 | 22.06 | 252 | 203.9 | 6.01 | 5.0 | " |
| 1002 | * | 0.25 | 2.40 | 6.80 | 21.88 | 251 | 213.7 | 5.88 | 3.9 | " |
| 1005 | * | 0.30 | 3.15 | 6.80 | 21.85 | 251 | 217.6 | 5.90 | 3.5 | " |
| 1008 | * | collect sample | | | WJETA535WG12 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

## Observations

Color. Clear Other (describe):

Odor. None Low Medium High Very Strong H2S Fuel-like

Notes: * Water is below top of pump

Signed/Sampler(s): [signature]

# APPENDIX A.4

# FIELD SAMPLING REPORTS

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas — PROJECT NAME: July 2000 Quarterly Sampling

SITE: Plume Monitoring Well — PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: GMI-22-06MWG12 — DATE: 7.11.00 — TIME: 1514

MATRIX TYPE: WG

SAMPLING METHOD: Low flow

LOT CONTROL #: 0 0 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 22000

SAMPLE BEG. DPETH (FT): —

SAMPLE END DPETH (FT): —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): —

TRIP BLANK (TB): TB071100

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| | PID READINGS | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0 ppm | COLOR. | Clear | |
| 2nd | 0 ppm | ODOR | none | |
| | | OTHER. | | |

pH 6.82 Temperature 23.59 (C) Dissolved Oxygen 0.40 (mg/L) ~~Specific~~ Conductivity 353 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 87.8 (mv) Turbidity 0.21 (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 100°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS: ____

SAMPLER: W Harde — OBSERVER: J Herringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

| | | | |
|---|---|---|---|
| LOCATION: | NAS Fort Worth JRB, Texas | PROJECT NAME | July 2000 Quarterly Sampling |
| SITE: | Plume Monitoring well | PROJECT NAME | AFC001-33DCA |

## SAMPLE INFORMATION

SAMPLE ID GMI-22-07MWG12

DATE: ~~7-10-00~~ WH 7.11.00 TIME: 1134

MATRIX TYPE: WG

SAMPLING METHOD: Low flow

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 200000

SAMPLE BEG DPETH (FT) –

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) GMI-22-07MWG12MS

MATRIX SPIKE DUP (SD): GMI-22-07MWG12MD

FIELD DUP (FD) –

AMBIENT BLANK (AB) –

EQUIPMENT BLANK (EB): –

TRIP BLANK (TB) ~~TB071000~~ WH TB071100

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0ppm | COLOR | Clear | |
| 2nd | 0ppm | ODOR. | none | |
| | | OTHER | | |

pH 6.80 Temperature 24.30 (C) Dissolved Oxygen 4.0 (mg/L) ~~Specific~~ Conductivity 318 (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential 225.2 (mv) Turbidity 6.3 (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 98°F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS:

SAMPLER: N Hade OBSERVER: J Heringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas — PROJECT NAME: July 2000 Quarterly Sampling

SITE: Plume Monitoring Well — PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: GMI-22-07MWG12MS — DATE: 7.11.00 — TIME: 1134

MATRIX TYPE: WG

SAMPLING METHOD: Low Flow

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 000000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) of GMI-22-07MWG12

MATRIX SPIKE DUP (SD) GMI-22-07MWG12MSD

FIELD DUP (FD) —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0ppm | COLOR | Clear | |
| 2nd | 0ppm | ODOR. | none | |
| | | OTHER | | |

pH 6.80 Temperature 24.30 (C) Dissolved Oxygen 4.0 (mg/L) Specific Conductivity 318 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 225.2 (mv) Turbidity 6.3 (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 98°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS:

SAMPLER: N Hode — OBSERVER: J Heringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas

PROJECT NAME July 2000 Quarterly Sampling

SITE: Plume Monitoring Well

PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID GMI-22-07MWG12MSD

DATE: 7.11.00 TIME: 1134

MATRIX TYPE: WG

SAMPLING METHOD: BP, low flow

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 070000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) GMI-22-07MWG12MS

MATRIX SPIKE DUP (SD) of GMI-22-07MWG12MD

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB071100

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0 ppm | COLOR | Clear | |
| 2nd | 0 ppm | ODOR | none | |
| | | OTHER. | | |

pH 6.80 Temperature 24.30 (C) Dissolved Oxygen 4.0 (mg/L) ~~Specific~~ Conductivity 318 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 225.2 (mv) Turbidity 6.3 (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 98°F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS.

SAMPLER: N Hale OBSERVER J Hesing

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas
SITE: TCE Plume
PROJECT NAME: July 2000 Quarterly Sampling
PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: HM-123WG12
DATE: 7-12-00 TIME: 1157
MATRIX TYPE: WG
SAMPLING METHOD: BP; Low flow
LOT CONTROL #: 0 0 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)
CHAIN-OF-CUSTODY #: 210000
SAMPLE BEG DPETH (FT) –
SAMPLE END DPETH (FT) –
GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:
MATRIX SPIKE (MS). –
MATRIX SPIKE DUP (SD) –
FIELD DUP (FD): ~~DUP01WG12~~ NH
AMBIENT BLANK (AB) –
EQUIPMENT BLANK (EB). –
TRIP BLANK (TB): TB071200

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | SAMPLE CHARACTERISTICS | MISCELLANEOUS |
|---|---|---|
| 1st 0.4 ppm at Wellhead | COLOR: Clear | |
| 2nd 0.0 ppm in BZ | ODOR None | |
| | OTHER – | |

pH 6.62 Temperature 22.47 (C) Dissolved Oxygen 0.16 (mg/L) ~~Specific~~ CW Conductivity 232 (umhos/cm)
Iron – (mg/L) Oxidation/Reduction Potential 193 (mv) Turbidity ~~1.93~~ 1.97 (NTU) 1.97 NTU

## GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION Wind from SW AMBIENT TEMPERATURE 100°
SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____
SHIPPED TO. STL - Chicago
COMMENTS:
SAMPLER: J. Wallace OBSERVER: C. Williams

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic

# FIELD SAMPLING REPORT

LOCATION: NAS Ft Worth JRB — PROJECT NAME: ~~WAA Investigation~~ July 2000 Quarterly

SITE: TCE Plume Monitoring — PROJECT NAME: AFC001-~~15BBH~~ 33DCA

## SAMPLE INFORMATION

SAMPLE ID: HM-126 — DATE: 7/14/00 — TIME: 1010

MATRIX TYPE: GW

SAMPLING METHOD: LOW FLOW

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 240000

SAMPLE SEG DPETH (FT): N/A

SAMPLE END DPETH (FT): N/A

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): —

TRIP BLANK (TB): TB071400

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40mL VOA | 2 | Cool to 4C/HCL pH <2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0 ppm | COLOR | clear | |
| 2nd | 0 ppm | ODOR | none | |
| | | OTHER | | |

pH 6.75 Temperature 24.33 (C) Dissolved Oxygen 2.09 (mg/L) ~~Specific~~ Gw Conductivity 709 (umhos/cm)

Iron N/A (mg/L) Oxidation/Reduction Potential 156.4 (mv) Turbidity 2.42 (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE 83°

SHIPMENT VIA FEDEX X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS

SAMPLER: C. Williams OBSERVER: J. Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas

PROJECT NAME July 2000 Quarterly Sampling

SITE: TCE Plume Monitoring

PROJECT NAME. AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID ITMW-01TWG12

DATE: 7/13/00 TIME: 0845

MATRIX TYPE: WG

SAMPLING METHOD: Low FLOW . BP

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ~~210000~~ 220000 NH

SAMPLE BEG DPETH (FT) N/A

SAMPLE END DPETH (FT) N/A

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD). —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB071300

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 1 L poly | 1 | Cool to 4C/HNO3 pH<2 | SW6010B/SW7471 | Total Metals + Hg |
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0.00 ppm | COLOR | clear | |
| 2nd | 0.00 ppm | ODOR | none | |
| | | OTHER | | |

pH 6.56 Temperature 21.28 (C) Dissolved Oxygen 0.25 (mg/L) ~~Specific~~ qw Conductivity 370 (umhos/cm)

Iron N/A (mg/L) Oxidation/Reduction Potential 237.6 (mv) Turbidity 0.19 (NTU)

## GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMPERATURE 88°

SHIPMENT VIA. FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS

SAMPLER: N. Hedo OBSERVER: J. Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

| | | | |
|---|---|---|---|
| LOCATION: | NAS Fort Worth JRB, Texas | PROJECT NAME | July 2000 Quarterly Sampling |
| SITE: TCE Plume | | PROJECT NAME: | AFC001-33DCA |

## SAMPLE INFORMATION

SAMPLE ID: LF03-3DWG12

DATE: 7/12/00 TIME: 1409

MATRIX TYPE: WG

SAMPLING METHOD: Bladder

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 210000

SAMPLE BEG DPETH (FT) N/A

SAMPLE END DPETH (FT) N/A

GRAB ( ) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD). —

FIELD DUP (FD) —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB071200

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH < 2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0.00 ppm | COLOR | clear | |
| 2nd | 0.00 ppm | ODOR | none | |
| | | OTHER | | |

pH 6.69 Temperature 25.55 (C) Dissolved Oxygen 3.43 (mg/L) ~~Specific~~ SP Conductivity 360 (umhos/cm)

Iron N/A (mg/L) Oxidation/Reduction Potential 191.6 (mv) Turbidity 4.79 (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 95°

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ____

SAMPLER: N. Hade OBSERVER: J. Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

692 188

LOCATION: NAS Fort Worth JRB, Texas
SITE: TCE Plume Monitoring

PROJECT NAME: July 2000 Quarterly Sampling
PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: LF05-01WG12

DATE: 7/13/00 TIME: 1545

MATRIX TYPE: WG

SAMPLING METHOD: LOW FLOW

LOT CONTROL #: 0 0 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ~~210000~~ 220000

SAMPLE BEG DPETH (FT) N/A
SAMPLE END DPETH (FT) N/A
GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS). —
MATRIX SPIKE DUP (SD) —
FIELD DUP (FD). —
AMBIENT BLANK (AB): —
EQUIPMENT BLANK (EB) —
TRIP BLANK (TB) TB071300

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | SAMPLE CHARACTERISTICS | MISCELLANEOUS |
|---|---|---|
| 1st | COLOR clear w/ rust particles | |
| 2nd | ODOR none | |
| | OTHER | |

pH _____ Temperature _____(C) Dissolved Oxygen _____(mg/L) ~~Specific~~ GW Conductivity _____(umhos/cm)
Iron N/A (mg/L) Oxidation/Reduction Potential _____(mv) Turbidity _____ (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION NE AMBIENT TEMPERATURE 105°

SHIPMENT VIA: FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO: STL - Chicago

COMMENTS: _____

SAMPLER: N. Hade OBSERVER: J. Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas

PROJECT NAME. July 2000 Quarterly Sampling

SITE: Plume Monitoring Well

PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID LF05-5GWG12

DATE: 7·11·00 TIME: 0904

MATRIX TYPE: WG

SAMPLING METHOD: Low Flow

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 220000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD) DUP02WG12

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB071100

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH < 2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 3.3 ppm | COLOR. | clear | |
| 2nd | 0 ppm | ODOR: | none | |
| | | OTHER: | | |

pH 6.63 Temperature 24.01 (C) Dissolved Oxygen 1.23 (mg/L) ~~Specific~~ Conductivity 332 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 24.02 (mv) Turbidity 1.6 (NTU)

## GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 85°F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER: J Heringer OBSERVER. N Hale

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

692 190

L TION: NAS Fort Worth JRB, Texas — PROJECT NAME July 2000 Quarterly Sampling

SITE: Plume Monitoring Well — PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID DUP02WG12 — DATE: 7.11.00 TIME: 1200 (0904)

MATRIX TYPE: WG

SAMPLING METHOD: lowflow

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. 000000

SAMPLE BEG DPETH (FT) –

SAMPLE END DPETH (FT) –

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) –

MATRIX SPIKE DUP (SD) –

FIELD DUP (FD) of LF05-5GWG12

AMBIENT BLANK (AB) –

EQUIPMENT BLANK (EB) –

TRIP BLANK (TB). TB071100

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 3.3ppm | COLOR | clear | |
| 2nd | 0ppm | ODOR | none | |
| | | OTHER | | |

pH 6.63 Temperature 24.01 (C) Dissolved Oxygen 1.23 (mg/L) ~~Specific~~ Conductivity 332.0 (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential 24.02 (mv) Turbidity 1.6 (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 85°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS.

SAMPLER: J Heinger OBSERVER: N Hade

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas

SITE: Plume Monitoring Well

PROJECT NAME. July 2000 Quarterly Sampling

PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID MW-53WG12

DATE: 7·12·00 TIME: 1141

MATRIX TYPE: WG

SAMPLING METHOD: Lowflow: BP

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 210000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD): —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB071200

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0ppm | COLOR | clear | |
| 2nd | 0ppm | ODOR | none | |
| | | OTHER | | |

pH 6.95 Temperature 22.33 (C) Dissolved Oxygen 4.00 (mg/L) ~~Specific~~ Conductivity 195.0 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 233.1 (mv) Turbidity 1.1 (NTU)

## GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMPERATURE 95°F

SHIPMENT VIA. FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER: N Hade OBSERVER: J Heringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

692 192

LOCATION: NAS Fort Worth JRB, Texas
SITE: TCE Plume Monitoring
PROJECT NAME: July 2000 Quarterly Sampling
PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: SPOT35-5WG12
DATE: 7/13/00 TIME: 1129

MATRIX TYPE: WG
SAMPLING METHOD: LOW FLOW : BP
LOT CONTROL #: 0 0 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)
CHAIN-OF-CUSTODY #: 220000

SAMPLE BEG DPETH (FT): N/A
SAMPLE END DPETH (FT): N/A
GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —
MATRIX SPIKE DUP (SD): —
FIELD DUP (FD): —
AMBIENT BLANK (AB): —
EQUIPMENT BLANK (EB): —
TRIP BLANK (TB): TB071300

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | MISCELLANEOUS |
|---|---|---|---|
| 1st | 10.2 ppm | COLOR: Clear w/ small rust particles | |
| 2nd | 0.00 ppm | ODOR: none | |
| | | OTHER | |

pH 6.61 Temperature 25.29 (C) Dissolved Oxygen 0.27 (mg/L) ~~Specific~~ GW Conductivity 482 (umhos/cm)
Iron N/A (mg/L) Oxidation/Reduction Potential -131.0 (mv) Turbidity 5.18 (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMPERATURE 95°
SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____
SHIPPED TO: STL - Chicago
COMMENTS:
SAMPLER: N. Hade OBSERVER J. Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas — PROJECT NAME: July 2000 Quarterly Sampling

SITE: Plume Monitoring Well — PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: USGS07TWG12 — DATE: 7.12.00 — TIME: 1427

MATRIX TYPE: WG

SAMPLING METHOD: low flow: BP

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 210000

SAMPLE BEG DPETH (FT): –

SAMPLE END DPETH (FT): –

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): –

MATRIX SPIKE DUP (SD): –

FIELD DUP (FD): –

AMBIENT BLANK (AB): –

EQUIPMENT BLANK (EB): –

TRIP BLANK (TB): TB071200

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 1 L poly | 1 | Cool to 4C/HNO3 pH<2 | SW6010B/SW7471 | Total Metals + Hg |
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0ppm | COLOR | Clear | |
| 2nd | 0ppm | ODOR | none | |
| | | OTHER | | |

pH 6.85 Temperature 23.53 (C) Dissolved Oxygen 3.36 (mg/L) ~~Specific~~ Conductivity 300 (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential 288.1 (mv) Turbidity 18 (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMPERATURE 100°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS: Serial dilution run on metals

SAMPLER: W Hade — OBSERVER: L Morgan

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

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LOCATION: NAS Fort Worth JRB, Texas
PROJECT NAME: July 2000 Quarterly Sampling
SITE: TCE Plume
PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: W-I53WG12
DATE: 7-12-00 TIME: 1555
MATRIX TYPE: WG
SAMPLING METHOD: BP; Low flow
LOT CONTROL #: 0 0 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)
CHAIN-OF-CUSTODY #: 210000
SAMPLE BEG DPETH (FT) —
SAMPLE END DPETH (FT) —
GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —
MATRIX SPIKE DUP (SD) —
FIELD DUP (FD) —
AMBIENT BLANK (AB) —
EQUIPMENT BLANK (EB) —
TRIP BLANK (TB) TB071200

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | MISCELLANEOUS |
|---|---|---|---|
| 1st | 0.0 ppm | COLOR Clear | |
| 2nd | 0.0 ppm | ODOR None | |
| | | OTHER — | |

pH 6.30 Temperature 24.07 (C) Dissolved Oxygen 3.43 (mg/L) ~~Specific~~ Conductivity 243 (umhos/cm)
Iron — (mg/L) Oxidation/Reduction Potential 177 (mv) Turbidity 6.69 (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION From the SW AMBIENT TEMPERATURE 100°
SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____
SHIPPED TO: STL - Chicago
COMMENTS:
SAMPLER: J. Wallace OBSERVER: C. Williams

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas

PROJECT NAME July 2000 Quarterly Sampling

SITE: Plume Monitoring Wells

PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID WJETA535WG12

DATE: 7·11·00 TIME: 1008

MATRIX TYPE: WG

SAMPLING METHOD: BP; low flow

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 000000

SAMPLE BEG DPETH (FT). —

SAMPLE END DPETH (FT) —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB). —

EQUIPMENT BLANK (EB): —

TRIP BLANK (TB) TB071100

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 1 L poly | 1 | Cool to 4C/HNO3 pH<2 | SW6010B/SW7471 | Total Metals + Hg |
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0 ppm | COLOR. | Clear | |
| 2nd | 0 ppm | ODOR | none | |
| | | OTHER | | |

pH 6.80 Temperature 21.85 (C) Dissolved Oxygen 5.70 (mg/L) ~~Specific~~ Conductivity 251 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 217.6 (mv) Turbidity 3.5 (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 92°F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS

SAMPLER D Hobe OBSERVER. J Heringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

692 196

LC ION: NAS Fort Worth JRB, Texas

SITE: TCE Plume

PROJECT NAME: July 2000 Quarterly Sampling

PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: WHGLRW015WG12

DATE: 7-10-00 TIME: 1520

MATRIX TYPE: WG

SAMPLING METHOD: BP, low flow

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 290000

SAMPLE BEG DPETH (FT) –

SAMPLE END DPETH (FT) –

GRAB ✓ COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) –

MATRIX SPIKE DUP (SD) –

FIELD DUP (FD) –

AMBIENT BLANK (AB) –

EQUIPMENT BLANK (EB) –

TRIP BLANK (TB) TB071000

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | MISCELLANEOUS |
|---|---|---|---|
| 1st | 0.0 ppm | COLOR Clear | |
| 2nd | 0.0 ppm | ODOR. None | |
| | | OTHER – | |

pH 6.38 Temperature 21.52 (C) Dissolved Oxygen 3.18 (mg/L) ~~Specific~~ Conductivity 402 (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential 304 (mv) Turbidity 1.40 (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION From SE AMBIENT TEMPERATURE 100°

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS.

SAMPLER: C. Williams OBSERVER J. Heringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic

# FIELD SAMPLING REPORT

LOCATION NAS Ft Worth JRB

SITE: TCE Plume

PROJECT NAME ~~VOA Investigation~~ July 2000 Quart. 'b

PROJECT NAME AFC001-~~1SDOIT~~ 33 DCA

## SAMPLE INFORMATION

SAMPLE ID WHGLRW017 WG12

DATE: 7-14-00 TIME: 1010

MATRIX TYPE: GW

SAMPLING METHOD: BP; Low flow

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # 230000

SAMPLE SEG. DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) Dup01WG12

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) EB071400

TRIP BLANK (TB) TB071400

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 ml VOA | 3 | Cool to 4C. HCl pH < 2 | SW 8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | MISCELLANEOUS |
|---|---|---|---|
| 1st | 0.0 ppm | COLOR Clear | |
| 2nd | 0.0 ppm | ODOR: | |
| | | OTHER: | |

pH 6.67 Temperature 22.43 (C) Dissolved Oxygen 4.22 (mg/L) ~~Specific~~ Conductivity 331 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 227 (mv) Turbidity 8.10 (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE 90°

SHIPMENT VIA FEDEX ✓ HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS Associated with Dup01WG12

SAMPLER J. Wallace OBSERVER: C. Williams

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

692 198

LOCATION: NAS Fort Worth JRB, Texas

PROJECT NAME ~~April 2000~~ July 2000 Quarterly Sampling

SITE: TCE Plume

PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID ~~FB07_00~~ DUP01WG12

DATE: 7-14-00 TIME: 1200 *

MATRIX TYPE: WG

SAMPLING METHOD: BP; Low flow

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 230000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (✓ COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS). —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD) —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB) EB071400

TRIP BLANK (TB) TB071400

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | SAMPLE CHARACTERISTICS | MISCELLANEOUS |
|---|---|---|
| 1st 0.0 ppm | COLOR. Clear | |
| 2nd 0.0 ppm | ODOR None | |
| | OTHER — | |

pH 6.67 Temperature 22.43 (C) Dissolved Oxygen 4.22 (mg/L) ~~Specific~~ Conductivity 331 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 227 (mv) Turbidity 8.10 (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE 90°

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS: * Associated with sample WNGLRW017WG12 collected at 1010.

SAMPLER J. Wallace OBSERVER: C. William

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

692 199

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

| | | | |
|---|---|---|---|
| LOCATION: | NAS Fort Worth JRB, Texas | PROJECT NAME | July 2000 Quarterly Sampling |
| SITE: | TCE Plume Monitoring | PROJECT NAME | AFC001-33DCA |

## SAMPLE INFORMATION

SAMPLE ID: WHGLTA011WG12

DATE: 7/13/00 TIME: 1006

MATRIX TYPE: WG

SAMPLING METHOD: LOW FLOW. BP

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ~~271000~~ NH 220000

SAMPLE BEG DPETH (FT): N/A

SAMPLE END DPETH (FT): N/A

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): —

TRIP BLANK (TB): TB071300

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0.00 ppm | COLOR | Clear | |
| 2nd | 0.00 ppm | ODOR | none | |
| | | OTHER | | |

pH 6.90 Temperature 24.70 (C) Dissolved Oxygen 1.10 (mg/L) ~~Specific~~ gw Conductivity 573 (umhos/cm)

Iron N/A (mg/L) Oxidation/Reduction Potential 218.6 (mv) Turbidity 4.77 (NTU)

## GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMPERATURE 90°

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS:

SAMPLER. N. Hadl OBSERVER: J. Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas
SITE: TCE Plume

PROJECT NAME: July 2000 Quarterly Sampling
PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: WHGLTA025WG12

DATE: 7-10-00 TIME: 1355

MATRIX TYPE: WG

SAMPLING METHOD: BP, low flow

LOT CONTROL #: 0 0 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 290000

SAMPLE BEG. DPETH (FT) —
SAMPLE END DPETH (FT) —
GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —
MATRIX SPIKE DUP (SD): —
FIELD DUP (FD): —
AMBIENT BLANK (AB): —
EQUIPMENT BLANK (EB): —
TRIP BLANK (TB): TB071000

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0.0 ppm | COLOR | Clear | |
| 2nd | 0.0 ppm | ODOR. | None | |
| | | OTHER | — | |

pH 6.72 Temperature 20.90 (C) Dissolved Oxygen 5.43 (mg/L) ~~Specific~~ Cond Conductivity 279 (umhos/cm)
Iron — (mg/L) Oxidation/Reduction Potential 288 (mv) Turbidity 5.1 (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION From SE AMBIENT TEMPERATURE 100°

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS:

SAMPLER: C. Williams OBSERVER: J. Heringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

692 201

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

| | | | |
|---|---|---|---|
| LOCATION: | NAS Fort Worth JRB, Texas | PROJECT NAME: | July 2000 Quarterly Sampling |
| SITE: | Plume Monitoring Well | PROJECT NAME | AFC001-33DCA |

## SAMPLE INFORMATION

SAMPLE ID: WITCTA004WG12

DATE: ~~7-10-00~~ 7.13.00 TIME: 1345

MATRIX TYPE: WG

SAMPLING METHOD: Low Flow: BP

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ~~210000~~ NH 220000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) ~~TB071000~~ NH TB071300

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 3.3 ppm | COLOR | Clear | |
| 2nd | 0 ppm | ODOR: | none | |
| | | OTHER. | | |

pH 6.60 Temperature 26.57 (C) Dissolved Oxygen 0.34 (mg/L) ~~Specific~~ Conductivity 529 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential -88.8 (mv) Turbidity 2.4 (NTU)

## GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 97°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ____

SAMPLER: N Hade OBSERVER: J Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas — PROJECT NAME: July 2000 Quarterly Sampling

SITE: Plume Monitoring Well — PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: WITCTA010WG12 — DATE: 7.11.00 — TIME: 1403

MATRIX TYPE: WG

SAMPLING METHOD:

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 000000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS). —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB071100

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0ppm | COLOR | clear | |
| 2nd | 0ppm | ODOR | strong $H_2S$ | |
| | | OTHER | | |

pH 7.05 Temperature 25.71 (C) Dissolved Oxygen 0.14 (mg/L) ~~Specific~~ Conductivity 226 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential -175.2 (mv) Turbidity 1.0 (NTU)

## GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 98°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS

SAMPLER. K) Herde OBSERVER: L. Morgan

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

| | | | |
|---|---|---|---|
| LOCATION: | NAS Fort Worth JRB, Texas | PROJECT NAME | July 2000 Quarterly Sampling |
| SITE: | Plume Monitoring Well | PROJECT NAME: | AFC001-33DCA |

## SAMPLE INFORMATION

SAMPLE ID WITCTA017WG12

DATE: 7.12.00 TIME. 0906

MATRIX TYPE: WG

SAMPLING METHOD. Low Flow BP

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 210000

SAMPLE BEG DPETH (FT) –

SAMPLE END DPETH (FT) –

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): –

MATRIX SPIKE DUP (SD) –

FIELD DUP (FD) –

AMBIENT BLANK (AB): –

EQUIPMENT BLANK (EB) –

TRIP BLANK (TB) TB071200

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 1 L poly | 1 | Cool to 4C/HNO3 pH<2 | SW6010B/SW7471 | Total Metals + Hg |
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0 ppm | COLOR | clear | |
| 2nd | 0 ppm | ODOR | none | |
| | | OTHER | | |

pH 6.87 Temperature 23.57 (C) Dissolved Oxygen 4.18 (mg/L) ~~Specific~~ Conductivity 256 (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential 268.8 (mv) Turbidity 3.2 (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 92°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER N Hade OBSERVER. J Heringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas — PROJECT NAME: July 2000 Quarterly Sampling

SITE: Plume Monitoring Well — PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: WITCTA024WG12 — DATE: 7.12.00 — TIME: 1024

MATRIX TYPE: WG

SAMPLING METHOD: Lowflow BP

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # 210000

SAMPLE BEG DPETH (FT). –

SAMPLE END DPETH (FT) –

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): –

MATRIX SPIKE DUP (SD) –

FIELD DUP (FD): –

AMBIENT BLANK (AB) –

EQUIPMENT BLANK (EB): –

TRIP BLANK (TB) TB071200

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 10.5 ppm | COLOR | Clear | |
| 2nd | 0 ppm | ODOR | none | |
| | | OTHER | | |

pH 6.99 Temperature 23.64 (C) Dissolved Oxygen 0.84 (mg/L) ~~Specific~~ Conductivity 319 (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential -73.4 (mv) Turbidity _____ (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION NE AMBIENT TEMPERATURE 94°F

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS:

SAMPLER NHade OBSERVER: JHeringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

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HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

| | | | |
|---|---|---|---|
| LOCATION. | NAS Fort Worth JRB, Texas | PROJECT NAME | ~~April~~ July 2000 Quarterly Sampling |
| SITE. | Field house | PROJECT NAME | AFC001-33DCA |

## SAMPLE INFORMATION

| | |
|---|---|
| SAMPLE ID ~~AB07 00~~ TB071000 | DATE: 7-10-00 TIME: 0900 |
| MATRIX TYPE: WG | ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE: |
| SAMPLING METHOD G | MATRIX SPIKE (MS): — |
| LOT CONTROL #: 0 0 1 A | MATRIX SPIKE DUP (SD): — |
| (Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #) | FIELD DUP (FD). — |
| CHAIN-OF-CUSTODY #: 200000 | AMBIENT BLANK (AB) — |
| SAMPLE BEG DPETH (FT) — | EQUIPMENT BLANK (EB) — |
| SAMPLE END DPETH (FT) — | TRIP BLANK (TB) ✓ |
| GRAB (✓ COMPOSITE ( ) | |

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | — | COLOR | — | |
| 2nd | — | ODOR | — | |
| | | OTHER | — | |

pH — Temperature — (C) Dissolved Oxygen — (mg/L) Specific Conductivity — (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential — (mv) Turbidity — (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR _____ OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMPERATURE _____

SHIPMENT VIA FEDEX x HAND DELIVER _____ COURIER _____ OTHER _____

SHIPPED TO STL - Chicago

COMMENTS Bubbles in both containers.

SAMPLER: C. Williams OBSERVER: N. Hade

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

692 206

LOCATION: NAS Fort Worth JRB, Texas

PROJECT NAME ~~April~~ July 2000 Quarterly Sampling

SITE: Field house

PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID ~~AB07_00~~ ~~TB0710~~ TB071100

DATE: 7-11-00 TIME: 0745

MATRIX TYPE: WG

SAMPLING METHOD: G

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. 200000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): —

TRIP BLANK (TB) ✓

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | — | COLOR | — | |
| 2nd | — | ODOR | — | |
| | | OTHER | — | |

pH — Temperature — (C) Dissolved Oxygen — (mg/L) Specific Conductivity — (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential — (mv) Turbidity — (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR ____ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE ____

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS

SAMPLER: N. Hade OBSERVER: C Williams

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

692 207

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas PROJECT NAME ~~April~~ July 2000 Quarterly Sampling

SITE: Field House - Plume Monitoring Wells PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID TB071200 DATE: 7-12-00 TIME: 0705

MATRIX TYPE: WG

SAMPLING METHOD: ~~Low Flow~~ NH Lab Pump

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 210000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD) —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB). —

TRIP BLANK (TB): *

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | — | COLOR | — | |
| 2nd | — | ODOR | — | |
| | | OTHER | | |

pH — Temperature — (C) Dissolved Oxygen — (mg/L) ~~Specific~~ Conductivity — (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential — (mv) Turbidity — (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 85°F

SHIPMENT VIA. FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS. Bubbles in VOA vials

SAMPLER. N Hade OBSERVER: Y Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

692 208

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas

PROJECT NAME ~~April~~ July 2000 Quarterly Sampling

SITE: Plume Monitoring - Field House

PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID TB07/300

DATE: 07.13.00 TIME: 0705

MATRIX TYPE: WG

SAMPLING METHOD: LP

LOT CONTROL #: 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. 220000

SAMPLE BEG DPETH (FT) –

SAMPLE END DPETH (FT) –

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) –

MATRIX SPIKE DUP (SD) –

FIELD DUP (FD) ~~Duplicate 12~~ NH

AMBIENT BLANK (AB) –

EQUIPMENT BLANK (EB) –

TRIP BLANK (TB) *

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | – | COLOR | – | |
| 2nd | – | ODOR | – | |
| | | OTHER | | |

pH – Temperature – (C) Dissolved Oxygen – (mg/L) ~~Specific~~ Conductivity – (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential – (mv) Turbidity – (NTU)

## GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE 85°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS: One VOA vial contains a bubble

SAMPLER. N Hade OBSERVER: J Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

692 209

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas PROJECT NAME ~~April 2000~~ July 2000 Quarterly Sampling

SITE: Route 183/Monitoring Well WHGLRM07 PROJECT NAME AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID AB071400 DATE: 7-14-00 TIME: 1035

MATRIX TYPE: WG

SAMPLING METHOD: Grab;

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. 230000

SAMPLE BEG DPETH (FT) —

SAMPLE END DPETH (FT) —

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB) ✓

EQUIPMENT BLANK (EB) EB071400

TRIP BLANK (TB): TB071400

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | 0.0ppm | COLOR | Clear | |
| 2nd | — | ODOR | — | |
| | | OTHER | | |

pH — Temperature — (C) Dissolved Oxygen — (mg/L) Specific Conductivity — (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential — (mv) Turbidity — (NTU)

## GENERAL INFORMATION

WEATHER. SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE 90°

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER C. Williams OBSERVER: J. Wallace

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas

SITE: Field house

PROJECT NAME: ~~April 2000~~ July 2000 Quarterly Sampling

PROJECT NAME: AFC001-33DCA

## SAMPLE INFORMATION

SAMPLE ID: TB071400

DATE: 7-14-00 TIME: 0715

MATRIX TYPE: WG

SAMPLING METHOD: G

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 230000

SAMPLE BEG DPETH (FT) –

SAMPLE END DPETH (FT) –

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) –

MATRIX SPIKE DUP (SD) –

FIELD DUP (FD) –

AMBIENT BLANK (AB) –

EQUIPMENT BLANK (EB) EB071400

TRIP BLANK (TB) ✓

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | ~~3~~ 2 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | – | COLOR | – | |
| 2nd | – | ODOR | – | |
| | | OTHER | – | |

pH – Temperature – (C) Dissolved Oxygen – (mg/L) Specific Conductivity – (umhos/cm)

Iron – (mg/L) Oxidation/Reduction Potential – (mv) Turbidity – (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR – OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE –

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS

SAMPLER. C. Williams OBSERVER: J. Heringer

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

692 211

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas

PROJECT NAME. RFI Phase III

SITE: Plume Monitoring Well

PROJECT NAME AFC001-33CBD

## SAMPLE INFORMATION

SAMPLE ID EB072000

DATE: 07 20 00 TIME: 1130

MATRIX TYPE: WG

SAMPLING METHOD: Grab

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 240000

SAMPLE BEG DPETH (FT). —

SAMPLE END DPETH (FT). —

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD) —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB). X

TRIP BLANK (TB) TB072000

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 1 L poly | 1 | Cool to 4C/HNO3 pH<2 | SW6010B/SW7471 | Total Metals + Hg |
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs (App IX) |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | | MISCELLANEOUS |
|---|---|---|---|---|
| 1st | — | COLOR | — | |
| 2nd | — | ODOR | — | |
| | | OTHER. | | |

pH — Temperature — (C) Dissolved Oxygen — (mg/L) Specific Conductivity — (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential — (mv) Turbidity — (NTU)

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NW AMBIENT TEMPERATURE 103°F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS.

SAMPLER: N Hada OBSERVER D. Martinez

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

HYDRO GeoLogic INC

# FIELD SAMPLING REPORT

**BEST AVAILABLE COPY** 692 212

LOCATION: NAS Fort Worth JRB, Texas — PROJECT NAME: RFI Phase III

SITE: [illegible] — PROJECT NAME: AFC001-33CBD

## SAMPLE INFORMATION

SAMPLE ID: TB07[illegible]00 — DATE: [illegible] — TIME: [illegible]

MATRIX TYPE: WG

SAMPLING METHOD: LP

LOT CONTROL #: [illegible]

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: 240000

SAMPLE BEG DPETH (FT): —

SAMPLE END DPETH (FT): —

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): [illegible]

TRIP BLANK (TB): [illegible]

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|
| 40 mL VOA | 3 | Cool to 4C/HCl to pH<2 | SW8260B | VOCs (App IX) |

## NOTABLE OBSERVATIONS

| PID READINGS | | SAMPLE CHARACTERISTICS | MISCELLANEOUS |
|---|---|---|---|
| 1st | — | COLOR: — | |
| 2nd | — | ODOR — | |
| | | OTHER | |

pH — Temperature — (C) Dissolved Oxygen — (mg/L) Specific Conductivity — (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential — (mv) Turbidity — (NTU)

## GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N AMBIENT TEMPERATURE [illegible]

SHIPMENT VIA. FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS:

SAMPLER: [illegible] OBSERVER: D Martinez

| MATRIX TYPE CODES | | SAMPLING METHOD CODES | |
|---|---|---|---|
| DC=DRILL CUTTINGS | SL=SLUDGE | B=BAILER | G=GRAB |
| WG=GROUND WATER | SO=SOIL | BP=BLADDER PUMP | HA=HAND AUGER |
| LH=HAZARDOUS LIQUID WASTE | GS=SOIL GAS | BR=BRASS RING | H=HOLLOW STEM AUGER |
| SH=HAZRDOUS SOLID WASTE | WS=SURFACE WATER | CS=COMPOSITE SAMPLE | HP=HYDRO PUNCH |
| SE=SEDIMENT | SW=SWAB/WIPE | C=CONTINUOUS FLIGHT AUGER | SS=SPLIT SPOON |
| | | DT=DRIVEN TUBE | SP=SUBMERSIBLE PUMP |

# APPENDIX A.5

# CHAINS OF CUSTODY

AFCEE/CLI

int. COC
EDD

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**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

**Report To:**
Contact: Kim Evers
Company: HydroGeoLogic, Inc.
Address: 1155 Herndon Pkwy, Suite 900, Herndon, VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E Mail: kevers@hgl.com

**Bill To:**
Contact: Kim Evers
Company:
Address: (Same)
Phone:
Fax:
PO#: Quote:

**Lab Lot #** 9A07G070

Package Sealed: Yes No
Samples Sealed: Yes No
Received on Ice: Yes No
Samples Intact: Yes No
Temperature °C of Cooler: 2.4
Within Hold Time: Yes No
Preserv. indicated: Yes No NA
pH Check ok: Yes No NA
Res $Cl_2$ Check ok: Yes No NA
Sample Labels and COC Agree: Yes No COC not present

Sampler Name: Nicole Hade
Signature:
Project Name: July 2000 Quarterly Groundwater Investigation
Project Number: AFC 00133DCA
Project Location: AS Fort Worth JRB
Date Required Hard Copy: 8/8/00
Fax: / /
Lab PM: Eric Lang

| Refrg # | 5 | 8 |
|---|---|---|
| # Cont. | 2 | 1 |
| Volume | 40ml | 1L |
| Preserv | 1 | 3 |

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | VOCs SW8260B | Total Metals + Hg (6010B/7470) | Additional Analyses / Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 001 | | WHGLTA025WG12 | 7-10-00 | 1355 | W | G | 3 | | |
| 002 | | WHGLRW015WG12 | 7-10-00 | 1520 | W | G | 3 | | |
| 003 | | GMI-22-07MWG12 | 7-11-00 | 1134 | W | G | 3 | | |
| | | GMI-22-07MWG12MS | 7-11-00 | 1134 | W | G | 3 | | |
| | | GMI-22-07MWG12MSD | 7-11-00 | 1134 | W | G | 3 | | |
| 004 | | WJETA535WG12 | 7-11-00 | 1008 | W | G | 3 | 1 | |
| 005 | | LF05-5G WG12 | 7-11-00 | 0904 | W | G | 3 | | |
| 006 | | WITCTA010WG12 | 7-11-00 | 1403 | W | G | 3 | | |
| 007 | | Dup02 WG12 | 7-11-00 | 1200 | W | G | 3 | | |
| 008 | | TB071100 | 7-11-00 | 0745 | W | G | 2 | | One of the tripblanks has a bu |
| 009 | | GMI-22-06MWG12 | 7-11-00 | 1514 | W | G | 3 | | |
| 010 | | TB071000 | 7-10-00 | 0900 | W | G | 2 | | Both containers have bubbles. |

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| [signature] | HydroGeologic | 7/11/00 | 1600 | [signature] | STL | 7/12/00 | 1455 |
| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |

**Matrix Key**
W = Wastewater
W = Water
= Soil
= Sludge
S = Miscellaneous
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass

**Preservative Key**
1 HCl Cool to 4°
2 H2SO4 Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°

COMMENTS

Date Received: 7/12/00
Courier: FX
Hand Delivered: ☐
Bill of Lading: [illegible]

692 214

AFC 1 LLI Line

inf. COC

EDD

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6.92.1215

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**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

**Report To:**
Contact: Kim Evers
Company: HydroGeoLogic, Inc.
Address: 1155 Herndon Pkwy, Suite 900, Herndon, VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: kevers@hgl.com

**Bill To:**
Contact: Kim Evers
Company:
Address: (same)
Phone:
Fax:
PO#: Quote:

**Lab Lot #** 9A0716112

Package Sealed: (Yes) No
Samples Sealed: Yes (No)
Received on Ice: (Yes) No
Samples Intact: (Yes) No
Temperature °C of Cooler: 2.7
Within Hold Time: (Yes) No
Preserv. Indicated: (Yes) No NA
pH Check ok: Yes No (NA)
Res $Cl_2$ Check ok: Yes No (NA)
Sample Labels and COC Agree: (Yes) No COC not present

Sampler Name: Catherine Williams
Signature: Catherine Williams
Project Name: July 2000 Quarterly Groundwater Investigation
Project Number: AFC 001 33 DCA
Project Location: NAS Fort Worth JRB
Date Required Hard Copy: 8/10/00
Fax: / /
Lab PM: Eric Lang

| Refrg # | 5 | 8 |
|---|---|---|
| # Cont. | 2 | 1 |
| Volume | 40ml | 1L |
| Preserv | 1 | 3 |

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time (0706) | Matrix | Comp/Grab | VOCs (SW8260B) | Total Metals (6010) | Additional Analyses / Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 001 | | WITCTA017WG12 | 7/12/00 | ~~0835~~ | W | G | 3 | 1 | |
| 002 | | WITCTA024WG12 | | 1024 | W | | 3 | | |
| 003 | | TB071200 | | 0705 | W | | 3 | | |
| 004 | | MW-53WG12 | 1141 | ~~1115~~ | | | 3 | | |
| 005 | | LF03-3DWG12 | | 1409 | | | 3 | | |
| 006 | | HM123WG12 | | 1157 | | | 3 | | |
| 007 | | KSGS07T | | 1427 | | | 3 | 1 | * serial dilution |
| 008 | | W153WG12 | | 1555 | | | 3 | | |
| | | ~~DUP01WG12~~ | ~~7/12/00~~ | ~~0000~~ | ~~W~~ | ~~G~~ | ~~3~~ | | ~~deleted due to bubbles~~ |
| | | | | | | | | | will perform tomorrow |

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| [illegible] | HGL | 7/12/00 | 1700 | [illegible] | STL | 7-14-00 | 1145 |
| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |

**Matrix Key**
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OIL = Oil
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
LE = Leachate
WI = Wipe

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

**Preservative Key**
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate Cool to 4°
6 Cool to 4°

COMMENTS
210000

Date Received: 7/14/00
Courier: FX Hand Delivered ☐
Bill of Lading: attached

STL
Committed To *Your* Success

**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

**Report To:**
Contact: Kim Evers
Company: HydroGeoLogic
Address: 1155 Herndon Pkwy, Suite 900, Herndon, VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: kevers@hgl.com

**Bill To:**
Contact: Kim Evers
Company:
Address: (same)
Phone:
Fax:
PO#: Quote:

*Shaded Areas For Internal Use Only* — 1 of 1

**Lab Lot #** 9AUG412

| | |
|---|---|
| Package Sealed: Yes (Yes) No | Samples Sealed: Yes (No) |
| Received on Ice: Yes (Yes) No | Samples Intact: (Yes) No |
| Temperature °C of Cooler: 3.0 | |
| Within Hold Time: (Yes) No | Preserv. Indicated: (Yes) No NA |
| pH Check ok: Yes No (NA) | Res $Cl_2$ Check ok: Yes No (NA) |
| Sample Labels and COC Agree: (Yes) No COC not present | |

Sampler Name: Jennifer Wallace
Signature: J Wallace
Project Name: July 2000 Quarterly Groundwater Investigation
Project Number: AFC 001 33DCA
Project Location: NAS Fort Worth JRB
Date Required: Hard Copy ___/___/___ Fax ___/___/___
Lab PM: Eric Lang

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | VOCs (SW 8260B) | Total Metals + Hg (6010B/7471) | | | | | | | | | Additional Analyses / Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrg # | | | | | | | 5 | 8 | | | | | | | | | |
| #/ Cont. | | | | | | | 2 | 1 | | | | | | | | | |
| Volume | | | | | | | 40 ml | 1L | | | | | | | | | |
| Preserv | | | | | | | 1 | 3 | | | | | | | | | |
| 009 | | TB071300 | 7-13-00 | | W | G | 2 | | | | | | | | | | Bundle in one VOA |
| 010 | | TTMW-01TWG12 | | 0845 | W | G | 3 | 1 | | | | | | | | | |
| 011 | | WHGLTA011WG12 | | 1006 | W | G | 3 | | | | | | | | | | |
| 012 | | SPOT35-5WG12 | | 1129 | W | G | 3 | | | | | | | | | | |
| 013 | | WITCTA004WG12 | | 1345 | W | G | 3 | | | | | | | | | | |
| 014 | | LF05-01WG12 | | 1545 | W | G | 3 | | | | | | | | | | |

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| [signature] | HydroGeoLogic | 7-13-00 | 1645 | [signature] | STL | 7-14-00 | 1145 |
| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |

**Matrix Key**
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other _____

**Preservative Key**
1 HCl, Cool to 4°
2 H2SO4 Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS

Date Received: 7, 14, 00
Courier: Hand Delivered ☐
Bill of Lading: attached



692216

AFCEE / CLI Line

int. COC

EDD

**BEST AVAILABLE**

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692-217

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Committed To Your Success

**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax 708-534-5211

**Report To:**
Contact: Kim Evers
Company: HydroGeoLogic, Inc.
Address: 1155 Herndon Pkwy, Suite 900, Herndon, VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: kevers@hgl.com

**Bill To:**
Contact: Kim Evers
Company:
Address: (same)
Phone:
Fax:
PO#: Quote:

**Lab Lot #** 9A07G128

| | |
|---|---|
| Package Sealed: Yes (circled) No | Samples Sealed: Yes No (circled) |
| Received on Ice: Yes (circled) No | Samples Intact: Yes No (circled) |
| Temperature °C of Cooler: 2.2 | |
| Within Hold Time: Yes (circled) No | Preserv. Indicated: Yes (circled) No NA |
| pH Check ok: Yes No NA (circled) | Res. $Cl_2$ Check ok: Yes No NA (circled) |
| Sample Labels and COC Agree: Yes (circled) No | COC not present |

Sampler Name: Catherine Williams
Signature: Cathi Williams
Project Name: July 2000 Quarterly Groundwater Investigation
Project Number: AFC 001 33 DCA
Project Location: NAS Fort Worth JRB
Lab PM: Eric Lang
Date Required: Hard Copy ___/___/___ Fax ___/___/___

| Refrg # | 5 |
|---|---|
| # Cont. | 2 |
| Volume | 40ml |
| Preserv | 1 |

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | VOCs SW 8260B | Additional Analyses / Remarks |
|---|---|---|---|---|---|---|---|---|
| 001 | | TB071400 | 7-14-00 | 0715 | W | G | 2 | Bubble in both trip blanks. |
| 002 | | WHGLRW017WG12 | | 1010 | W | G | 3 | |
| 003 | | AB071400 | | 1035 | W | G | 3 | |
| 004 | | EB071400 | | 1130 | W | G | 3 | |
| 005 | | Dup01 WG12 | | 1200 | W | G | 3 | |

| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |
|---|---|---|---|---|---|---|---|
| Jennifer Wall | HydroGeoLogic | 7/14/00 | 1500 | [signature] | STL | 7-15-00 | 1300 |
| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |
| | | | | | | | |

**Matrix Key**
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ____

**Preservative Key**
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS

Date Received 7/15/00
Courier attached Hand Delivered ☐
Fx
Bill of Lading.

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STL
Committed To Your Success

**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

Shaded Areas For Internal Use



**Report To:**
Contact: Kim Evers
Company: HydroGeoLogic, Inc.
Address: 1155 Herndon Pkwy. Suite 900, Herndon, VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: kevers@hgl.com

**Bill To:**
Contact: Kim Evers
Company:
Address: (Same)
Phone:
Fax:
PO#: Quote:

**Lab Lot #** 9AC[illegible]200

| | |
|---|---|
| Package Sealed: Yes (Yes) No | Samples Sealed: Yes (No) |
| Received on Ice: (Yes) No | Samples Intact: (Yes) No |
| Temperature °C of Cooler: 2.4 | |
| Within Hold Time: (Yes) No | Preserv. Indicated: (Yes) No NA |
| pH Check ok: Yes No (NA) | Res. $Cl_2$ Check ok: Yes No (NA) |
| Sample Labels and COC Agree: (Yes) No COC not present | |

Sampler Name: Nicole Hade
Signature: Nicole Hade
Project Name: July 2000 Quarterly Groundwater Investigation
Project Number: AFC 001 33 DCA
Project Location: NAS Fort Worth JRB
Lab PM: Eric Lang
Date Required Hard Copy: 8/17/00
Fax: / /

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | VOCs SW8260B |
|---|---|---|---|---|---|---|---|
| C01 | | TB072000 | 7/20/00 | 0730 | W | G | 2 |
| C02 | | EB072000 | | 1130 | W | G | 3 |
| C03 | | HM-126WG12 | | 1010 | W | G | 3 |

Refrg #: 5
#/Cont.: 2
Volume: 40 ml
Preserv: 1

**Additional Analyses / Remarks**

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| Allen Willis | HydroGeologic | 7.20.00 | 1730 | [signature] | STL | 7-21-00 | 1305 |
| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |

**Matrix Key**
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other _____

**Preservative Key**
1 HCl Cool to 4°
2 H2SO4 Cool to 4°
3 HNO3, Cool to 4°
4 NaOH Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS

Date Received: 7/21/00
Courier: FX
Hand Delivered: ☐
Bill of Lading: attached

# TAB

Appendix B

# APPENDIX B

# JULY 2000 ANALYTICAL RESULTS

# TABLE B.1

# TCE PLUME MONITORING WELL LABORATORY RESULTS

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | Units | Reporting Limit | GMI-22-06M N 7/11/00 | GMI-22-07M N 7/11/00 | HM-123 N 7/12/00 | HM-126 N 7/20/00 |
|---|---|---|---|---|---|---|
| **Trace Elements (Metals) by ICP - SW6010** | | | | | | |
| Aluminum | :g/L | 500 | NA | NA | NA | NA |
| Arsenic | ·g/L | 50 | NA | NA | NA | NA |
| Barium | ·g/L | 200 | NA | NA | NA | NA |
| Beryllium | g/L | 3 | NA | NA | NA | NA |
| Cadmium | g/L | 5 | NA | NA | NA | NA |
| Calcium | g/L | 500 | NA | NA | NA | NA |
| Cobalt | :g/L | 10 | NA | NA | NA | NA |
| Copper | g/L | 100 | NA | NA | NA | NA |
| Iron | .g/L | 70 | NA | NA | NA | NA |
| Magneseum | g/L | 500 | NA | NA | NA | NA |
| Manganese | g/L | 20 | NA | NA | NA | NA |
| Moylbdenum | ·g/L | 10 | NA | NA | NA | NA |
| Nickel | g/L | 20 | NA | NA | NA | NA |
| Potassium | g/L | 5000 | NA | NA | NA | NA |
| Silver | :g/L | 5 | NA | NA | NA | NA |
| Sodium | :g/L | 1000 | NA | NA | NA | NA |
| Vanadium | ·g/L | 10 | NA | NA | NA | NA |
| Zinc | g/L | 100 | NA | NA | NA | NA |
| **Antimony (AA, Furnace Technique) - SW7041** | | | | | | |
| Antimony | g/L | 10 | NA | NA | NA | NA |
| **Chromium (AA, Furnace Technique) - SW7191** | | | | | | |
| Chromium (total) | :g/L | 5 | NA | NA | NA | NA |
| **Lead (AA, Furnace Technique) -SW7421** | | | | | | |
| Lead | g/L | 2 | NA | NA | NA | NA |
| **Mercury in Liquid Waste - SW7470** | | | | | | |
| Mercury | ·g/L | 0 2 | NA | NA | NA | NA |
| **Selenium (AA, Furnace Technique) - SW7740** | | | | | | |
| Selenium | ·g/L | 5 | NA | NA | NA | NA |
| **Thallium - SW7841** | | | | | | |
| Thallium | :g/L | 50 | NA | NA | NA | NA |



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**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | Units | Reporting Limit | GMI-22-06M N 7/11/00 | GMI-22-07M N 7/11/00 | HM-123 N 7/12/00 | HM-126 N 7/20/00 |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds - SW8260B** | | | | | | |
| 1,1,1,2-Tetrachloroethane | ·g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| 1,1,1-Trichloroethane | .g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| 1,1,2-Trichloroethane | :g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,1-Dichloroethane | g/L | 0 4 | 0 4 U | 0 4 U | 1 | 0 4 |
| 1,1-Dichloroethene | .g/L | 0 5 | 0 5 | 0 5 U | 3 | 1 |
| 1,1-Dichloropropene | :g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,2,3-Trichlorobenzene | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| 1,2,3-Trichloropropane | g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,2,4-Trichlorobenzene | :g/L | 0 4 | 0 4 U | 0.4 U | 0 4 U | 0.4 U |
| 1,2,4-Trimethylbenzene | ·g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,2-Dibromo-3-Chloropropane | ·g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2-Dibromoethane (ethylene dibromide) | :g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,2-Dichlorobenzene | :g/L | 0 3 | 0 3 U | 0 3 U | 0 3 U | 0 3 U |
| 1,2-Dichloroethane | ·g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,2-Dichloropropane | g/L | 0 4 | 0 4 U | 0 4 U | 0.4 U | 0.4 U |
| 1,3,5-Trimethylbenzene (mesitylene) | :g/L | 0 5 | 0 5 U | 0.5 R | 0 5 U | 0.5 U |
| 1,3-Dichlorobenzene | .g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,3-Dichloropropane | ·g/L | 0 4 | 0.4 U | 0 4 U | 0.4 U | 0 4 U |
| 1,4-Dichlorobenzene | :g/L | 0 3 | 0 3 U | 0.3 U | 0.3 U | 0.3 U |
| 1-Chlorohexane | :g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| 2,2-Dichloropropane | g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0 5 U |
| 2-Chlorotoluene | :g/L | 0 4 | 0 4 U | 0 4 U | 0.4 U | 0.4 U |
| 4-Chlorotoluene | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| Benzene | g/L | 0 4 | 0.4 U | 0.4 U | 0 4 U | 0 4 U |
| Bromobenzene | g/L | 0.3 | 0.3 U | 0.3 U | 0.3 U | 0 3 U |
| Bromochloromethane | :g/L | 0 4 | 0 4 U | 0.4 U | 0.4 U | 0.4 U |
| Bromodichloromethane | ·g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| Bromoform | .g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Bromomethane | ·g/L | 0.5 | 0.5 R | 0 5 U | 0.5 U | 0.5 U |

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**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | GMI-22-06M N 7/11/00 | GMI-22-07M N 7/11/00 | HM-123 N 7/12/00 | HM-126 N 7/20/00 |
|---|---|---|---|---|---|---|
| Carbon tetrachloride | g/L | 0 5 | 0 5 R | 0.5 U | 0.5 U | 0.5 U |
| Chlorobenzene | g/L | 0 4 | 0 4 U | 0.4 U | 0 4 U | 0.4 U |
| Chloroethane | .g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| Chloroform | :g/L | 0.3 | 0 6 | 0.3 U | 0.7 | 0.6 |
| Chloromethane | :g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| *cis* -1,2-Dichloroethene | g/L | 0 5 | 91 * | 0.5 U | 550 * | 70 * |
| *cis* -1,3-Dichloropropene | .g/L | 0 5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| Dibromochloromethane | ·g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Dibromomethane | .g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0 5 U |
| Dichlorodifluoromethane | ·g/L | 0.5 | 0.5 R | 0 5 U | 0.5 U | 0 5 U |
| Ethylbenzene | .g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| Hexachlorobutadiene | ·g/L | 0 5 | 0.5 U | 0 5 R | 0 5 U | 0 5 U |
| Isopropylbenzene (cumene) | :g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| *m* - & *p* -Xylene (sum of isomers) | :g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| Methylene chloride | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 6 U |
| Naphthalene | :g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| *n* -Butylbenzene | :g/L | 0.5 | 0.5 U | 0.5 U | 0 5 U | 0.5 U |
| *n* -Propylbenzene | ·g/L | 0 4 | 0.4 U | 0 4 U | 0 4 U | 0 4 U |
| *o* -Xylene (1,2-dimethylbenzene) | :g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0 5 U |
| *p* -Cymene (*p* -isopropyltoluene) | g/L | 0 5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| *sec* -Butylbenzene | ·g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| Styrene | g/L | 0 4 | 0.4 U | 0 4 U | 0.4 U | 0 4 U |
| *tert* -Butylbenzene | g/L | 0 5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| Methyl tert-butyl ether | :g/L | 0 5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| Tetrachloroethene (PCE) | :g/L | 0.5 | 1 | 0 5 U | 0.7 | 1 |
| Toluene | :g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| *trans* -1,2-Dichloroethene | :g/L | 0.5 | 6 | 0.5 U | 14 | 3 |
| *trans* -1,3-Dichloropropene | :g/L | 0.5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| Trichloroethene (TCE) | g/L | 0.5 | 540 * | 0.5 U | 3000 * | 1500 * |
| Trichlorofluoromethane | .g/L | 0.5 | 1 R | 0 5 U | 0.6 | 0.5 U |
| Vinyl acetate | ·g/L | 2 | 2 U | 2 U | 2 U | 2 U |
| Vinyl chloride | ·g/L | 0 5 | 0 5 U | 0.5 U | 2 | 0.5 U |

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | ITMW-01T N 7/13/00 | LF03-3D N 7/12/00 | LF05-01 N 7/13/00 | LF05-5G N 7/11/00 |
|---|---|---|---|---|---|---|
| **Trace Elements (Metals) by ICP - SW6010** | | | | | | |
| Aluminum | ·g/L | 500 | 500 UJ | NA | NA | NA |
| Arsenic | g/L | 50 | 50 UJ | NA | NA | NA |
| Barium | g/L | 200 | 98 3 F | NA | NA | NA |
| Beryllium | .g/L | 3 | 3 UJ | NA | NA | NA |
| Cadmium | :g/L | 5 | 5 UJ | NA | NA | NA |
| Calcium | ·g/L | 500 | 172000 | NA | NA | NA |
| Cobalt | ·g/L | 10 | 10 U | NA | NA | NA |
| Copper | g/L | 100 | 100 U | NA | NA | NA |
| Iron | .g/L | 70 | 70 U | NA | NA | NA |
| Magneseum | ·g/L | 500 | 10900 | NA | NA | NA |
| Manganese | .g/L | 20 | 228 | NA | NA | NA |
| Moylbdenum | :g/L | 10 | 2 9 F | NA | NA | NA |
| Nickel | ·g/L | 20 | 20 UJ | NA | NA | NA |
| Potassium | .g/L | 5000 | 1610 F | NA | NA | NA |
| Silver | ·g/L | 5 | 5 U | NA | NA | NA |
| Sodium | ·g/L | 1000 | 37500 | NA | NA | NA |
| Vanadium | .g/L | 10 | 10 U | NA | NA | NA |
| Zinc | :g/L | 100 | 100 U | NA | NA | NA |
| **Antimony (AA, Furnace Technique) - SW7041** | | | | | | |
| Antimony | g/L | 10 | 10 UJ | NA | NA | NA |
| **Chromium (AA, Furnace Technique) - SW7191** | | | | | | |
| Chromium (total) | ·g/L | 5 | 5 U | NA | NA | NA |
| **Lead (AA, Furnace Technique) -SW7421** | | | | | | |
| Lead | g/L | 2 | 2 U | NA | NA | NA |
| **Mercury in Liquid Waste - SW7470** | | | | | | |
| Mercury | :g/L | 0.2 | 0.2 U | NA | NA | NA |
| **Selenium (AA, Furnace Technique) - SW7740** | | | | | | |
| Selenium | .g/L | 5 | 5 UJ | NA | NA | NA |
| **Thallium - SW7841** | | | | | | |
| Thallium | :g/L | 50 | 50 UJ | NA | NA | NA |

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | ITMW-01T N 7/13/00 | LF03-3D N 7/12/00 | LF05-01 N 7/13/00 | LF05-5G N 7/13/00 |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds - SW8260B** | | | | | | |
| 1,1,1,2-Tetrachloroethane | ·g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,1,1-Trichloroethane | g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,1,2-Trichloroethane | g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,1-Dichloroethane | :g/L | 0 4 | 0 4 U | 0.4 U | 0.5 | 0.4 |
| 1,1-Dichloroethene | :g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 4 J |
| 1,1-Dichloropropene | g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,2,3-Trichlorobenzene | g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,2,3-Trichloropropane | g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,2,4-Trichlorobenzene | g/L | 0 4 | 0 4 U | 0 4 U | 0 4 U | 0.4 U |
| 1,2,4-Trimethylbenzene | g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2-Dibromo-3-Chloropropane | :g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0 5 U |
| 1,2-Dibromoethane (ethylene dibromide) | :g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,2-Dichlorobenzene | .g/L | 0.3 | 0.3 U | 0 3 U | 0.3 U | 0 3 U |
| 1,2-Dichloroethane | .g/L | 0 5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| 1,2-Dichloropropane | .g/L | 0 4 | 0 4 U | 0.4 U | 0 4 U | 0.4 U |
| 1,3,5-Trimethylbenzene (mesitylene) | .g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0.5 R |
| 1,3-Dichlorobenzene | .g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,3-Dichloropropane | .g/L | 0.4 | 0 4 U | 0.4 U | 0.4 U | 0.4 U |
| 1,4-Dichlorobenzene | g/L | 0.3 | 0 3 U | 0 3 U | 0.3 U | 2 |
| 1-Chlorohexane | :g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| 2,2-Dichloropropane | .g/L | 0.5 | 0.5 U | 0.5 U | 0 5 U | 0.5 U |
| 2-Chlorotoluene | ·g/L | 0 4 | 0.4 U | 0 4 U | 0 4 U | 0.4 U |
| 4-Chlorotoluene | g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Benzene | ·g/L | 0 4 | 0 4 U | 0.4 U | 0.4 U | 0 4 U |
| Bromobenzene | :g/L | 0 3 | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| Bromochloromethane | :g/L | 0.4 | 0 4 U | 0.4 U | 0.4 U | 0.4 U |
| Bromodichloromethane | g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Bromoform | ·g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Bromomethane | ·g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |



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**Table B.1**
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| Analyte | UNITS | Reporting Limit | TMW-01T N 7/13/00 | LF03-3D N 7/12/00 | LF05-01 N 7/13/00 | LF05-5G N 7/11/00 |
|---|---|---|---|---|---|---|
| Carbon tetrachloride | ·g/L | 0.5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Chlorobenzene | ·g/L | 0 4 | 0.4 U | 0 4 U | 0.4 U | 1 |
| Chloroethane | ·g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| Chloroform | :g/L | 0.3 | 0.3 U | 0 3 U | 0.3 U | 0 3 U |
| Chloromethane | g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| *cis* -1,2-Dichloroethene | g/L | 0 5 | 5 | 0.5 U | 60 * | 260 * |
| *cis* -1,3-Dichloropropene | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Dibromochloromethane | ·g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0 5 U |
| Dibromomethane | .g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| Dichlorodifluoromethane | ·g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Ethylbenzene | g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| Hexachlorobutadiene | .g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| Isopropylbenzene (cumene) | ·g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| *m* - & *p* -Xylene (sum of isomers) | g/L | 0 5 | 0.2 F | 0.5 U | 0.5 U | 0.5 U |
| Methylene chloride | :g/L | 0.5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Naphthalene | g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| *n* -Butylbenzene | g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| *n* -Propylbenzene | ·g/L | 0.4 | 0 4 U | 0.4 U | 0 4 U | 0.4 U |
| *o* -Xylene (1,2-dimethylbenzene) | .g/L | 0 5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| *p* -Cymene (*p* -isopropyltoluene) | .g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| *sec* -Butylbenzene | ·g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Styrene | .g/L | 0 4 | 0.4 U | 0 4 U | 0 4 U | 0 4 U |
| *tert* -Butylbenzene | :g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Methyl tert-butyl ether | g/L | 0 5 | 0 5 U | 2 | 0 5 U | 0 5 U |
| Tetrachloroethene (PCE) | g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Toluene | :g/L | 0.5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| *trans* -1,2-Dichloroethene | g/L | 0 5 | 0 5 U | 0 5 U | 4 | 26 |
| *trans* -1,3-Dichloropropene | .g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Trichloroethene (TCE) | ·g/L | 0 5 | 13 | 0 5 U | 6 | 760 * |
| Trichlorofluoromethane | g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| Vinyl acetate | :g/L | 2 | 2 U | 2 U | 2 U | 2 U |
| Vinyl chloride | ·g/L | 0.5 | 0.5 U | 0 5 U | 79 * | 18 J |

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**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
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| Analyte | UNITS | Reporting Limit | LF05-5G FD 7/11/00 | SPOT35-5 N 7/13/00 | USGS071 N 7/12/00 | W-153 7/12/00 |
|---|---|---|---|---|---|---|
| **Trace Elements (Metals) by ICP - SW6010** | | | | | | |
| Aluminum | g/L | 500 | NA | NA | 1440 J | NA |
| Arsenic | :g/L | 50 | NA | NA | 50 UJ | NA |
| Barium | ·g/L | 200 | NA | NA | 88 F | NA |
| Beryllium | .g/L | 3 | NA | NA | 3 UJ | NA |
| Cadmium | .g/L | 5 | NA | NA | 5 UJ | NA |
| Calcium | ·g/L | 500 | NA | NA | 106000 | NA |
| Cobalt | g/L | 10 | NA | NA | 10 U | NA |
| Copper | ·g/L | 100 | NA | NA | 100 U | NA |
| Iron | g/L | 70 | NA | NA | 976 | NA |
| Magneseum | .g/L | 500 | NA | NA | 4830 | NA |
| Manganese | g/L | 20 | NA | NA | 35.3 | NA |
| Moylbdenum | g/L | 10 | NA | NA | 10 U | NA |
| Nickel | g/L | 20 | NA | NA | 20 UJ | NA |
| Potassium | ·g/L | 5000 | NA | NA | 1000 F | NA |
| Silver | g/L | 5 | NA | NA | 5 U | NA |
| Sodium | ·g/L | 1000 | NA | NA | 29600 | NA |
| Vanadium | ·g/L | 10 | NA | NA | 10 U | NA |
| Zinc | ·g/L | 100 | NA | NA | 100 U | NA |
| **Antimony (AA, Furnace Technique) - SW7041** | | | | | | |
| Antimony | g/L | 10 | NA | NA | 10 UJ | NA |
| **Chromium (AA, Furnace Technique) - SW7191** | | | | | | |
| Chromium (total) | g/L | 5 | NA | NA | 1.8 F | NA |
| **Lead (AA, Furnace Technique) -SW7421** | | | | | | |
| Lead | g/L | 2 | NA | NA | 2 UJ | NA |
| **Mercury in Liquid Waste - SW7470** | | | | | | |
| Mercury | g/L | 0 2 | NA | NA | 0 2 U | NA |
| **Selenium (AA, Furnace Technique) - SW7740** | | | | | | |
| Selenium | .g/L | 5 | NA | NA | 5 U | NA |
| **Thallium - SW7841** | | | | | | |
| Thallium | :g/L | 50 | NA | NA | 50 UJ | NA |

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | LF05-5G FD 7/11/00 | SPOT35-5 N 7/13/00 | USGS07T N 7/12/00 | W-153 N 7/12/00 |
|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds - SW8260B*** | | | | | | |
| 1,1,1,2-Tetrachloroethane | .g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| 1,1,1-Trichloroethane | :g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,1,2-Trichloroethane | .g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| 1,1-Dichloroethane | :g/L | 0.4 | 0 4 | 0.4 U | 0 4 U | 0 4 |
| 1,1-Dichloroethene | ·g/L | 0.5 | 5 J | 0 5 R | 0.5 U | 2 J |
| 1,1-Dichloropropene | g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,2,3-Trichlorobenzene | :g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| 1,2,3-Trichloropropane | g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| 1,2,4-Trichlorobenzene | g/L | 0 4 | 0 4 U | 0 4 U | 0 4 U | 0.4 U |
| 1,2,4-Trimethylbenzene | ·g/L | 0.5 | 0 5 U | 0.5 U | 0 5 U | 0 5 U |
| 1,2-Dibromo-3-Chloropropane | .g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0.5 U |
| 1,2-Dibromoethane (ethylene dibromide) | g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,2-Dichlorobenzene | ·g/L | 0.3 | 0 3 U | 0.3 U | 0 3 U | 0.3 U |
| 1,2-Dichloroethane | .g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,2-Dichloropropane | g/L | 0 4 | 0.4 U | 0 4 U | 0.4 U | 0 4 U |
| 1,3,5-Trimethylbenzene (mesitylene) | :g/L | 0 5 | 0 5 R | 0 5 U | 0 5 U | 0.5 U |
| 1,3-Dichlorobenzene | .g/L | 0.5 | 0.5 U | 0.5 U | 0.5 U | 0 5 U |
| 1,3-Dichloropropane | ·g/L | 0 4 | 0 4 U | 0.4 U | 0 4 U | 0 4 U |
| 1,4-Dichlorobenzene | :g/L | 0 3 | 2 | 0 3 U | 0.3 U | 0.3 U |
| 1-Chlorohexane | ·g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| 2,2-Dichloropropane | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 R |
| 2-Chlorotoluene | g/L | 0 4 | 0 4 U | 0.4 U | 0 4 U | 0 4 U |
| 4-Chlorotoluene | ·g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| Benzene | :g/L | 0 4 | 0 4 U | 0 4 U | 0 4 U | 0 4 U |
| Bromobenzene | g/L | 0 3 | 0 3 U | 0 3 U | 0.3 U | 0.3 U |
| Bromochloromethane | g/L | 0 4 | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Bromodichloromethane | :g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Bromoform | ·g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Bromomethane | :g/L | 0.5 | 0.5 U | 0.5 U | 0 5 U | 0 5 R |

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**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
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| Analyte | UNITS | Reporting Limit | LF05-5G FD 7/11/00 | SPOT35-5 N 7/13/00 | USGS07T N 7/12/00 | W-153 N 7/12/00 |
|---|---|---|---|---|---|---|
| Carbon tetrachloride | ·g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| Chlorobenzene | g/L | 0 4 | 1 | 0.4 U | 0.4 U | 0 4 U |
| Chloroethane | ·g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| Chloroform | ·g/L | 0 3 | 0 3 U | 0.3 U | 0.3 U | 0 6 |
| Chloromethane | ·g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| *cis*-1,2-Dichloroethene | ·g/L | 0 5 | 280 * | 0 5 U | 0.5 U | 110 * |
| *cis*-1,3-Dichloropropene | :g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| Dibromochloromethane | :g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Dibromomethane | :g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| Dichlorodifluoromethane | ·g/L | 0.5 | 0.5 U | 0.5 U | 0 5 U | 0 5 R |
| Ethylbenzene | g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Hexachlorobutadiene | .g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| Isopropylbenzene (cumene) | ·g/L | 0.5 | 0.5 U | 28 | 0 5 U | 0.5 U |
| *m*- & *p*-Xylene (sum of isomers) | g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| Methylene chloride | ·g/L | 0 5 | 0.5 U | 0.5 R | 0 5 U | 0 5 U |
| Naphthalene | g/L | 0 5 | 0.5 U | 44 * | 0 5 U | 0.5 U |
| *n*-Butylbenzene | ·g/L | 0 5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| *n*-Propylbenzene | :g/L | 0 4 | 0.4 U | 36 | 0.4 U | 0.4 U |
| *o*-Xylene (1,2-dimethylbenzene) | :g/L | 0 5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| *p*-Cymene (*p*-isopropyltoluene) | :g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0 5 U |
| *sec*-Butylbenzene | :g/L | 0 5 | 0.5 U | 9 | 0 5 U | 0.5 U |
| Styrene | :g/L | 0 4 | 0 4 U | 0 4 U | 0 4 U | 0 4 U |
| *tert*-Butylbenzene | :g/L | 0 5 | 0 5 U | 2 | 0.5 U | 0 5 U |
| Methyl tert-butyl ether | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 5 R |
| Tetrachloroethene (PCE) | :g/L | 0.5 | 0 5 U | 0 5 U | 1 | 5 |
| Toluene | :g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| *trans*-1,2-Dichloroethene | :g/L | 0.5 | 28 | 0.5 R | 0.5 U | 1 |
| *trans*-1,3-Dichloropropene | g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Trichloroethene (TCE) | .g/L | 0.5 | 790 * | 0 5 U | 0.5 U | 730 * |
| Trichlorofluoromethane | ·g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 3 |
| Vinyl acetate | .g/L | 2 | 2 U | 2 U | 2 U | 2 U |
| Vinyl chloride | .g/L | 0 5 | 19 J | 0.5 U | 0.5 U | 0 5 U |

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
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| Analyte | UNITS | Reporting Limit | WHGLRW015 N 7/10/00 | WHGLRW017 N 7/14/00 | WHGLRW017 FD 7/14/00 | WHGLTA011 N 7/13/00 |
|---|---|---|---|---|---|---|
| **Trace Elements (Metals) by ICP - SW6010** | | | | | | |
| Aluminum | g/L | 500 | NA | NA | NA | NA |
| Arsenic | ·g/L | 50 | NA | NA | NA | NA |
| Barium | ·g/L | 200 | NA | NA | NA | NA |
| Beryllium | g/L | 3 | NA | NA | NA | NA |
| Cadmium | g/L | 5 | NA | NA | NA | NA |
| Calcium | .g/L | 500 | NA | NA | NA | NA |
| Cobalt | :g/L | 10 | NA | NA | NA | NA |
| Copper | .g/L | 100 | NA | NA | NA | NA |
| Iron | ·g/L | 70 | NA | NA | NA | NA |
| Magneseum | :g/L | 500 | NA | NA | NA | NA |
| Manganese | .g/L | 20 | NA | NA | NA | NA |
| Moylbdenum | g/L | 10 | NA | NA | NA | NA |
| Nickel | g/L | 20 | NA | NA | NA | NA |
| Potassium | ·g/L | 5000 | NA | NA | NA | NA |
| Silver | g/L | 5 | NA | NA | NA | NA |
| Sodium | g/L | 1000 | NA | NA | NA | NA |
| Vanadium | g/L | 10 | NA | NA | NA | NA |
| Zinc | g/L | 100 | NA | NA | NA | NA |
| **Antimony (AA, Furnace Technique) - SW7041** | | | | | | |
| Antimony | g/L | 10 | NA | NA | NA | NA |
| **Chromium (AA, Furnace Technique) - SW7191** | | | | | | |
| Chromium (total) | ·g/L | 5 | NA | NA | NA | NA |
| **Lead (AA, Furnace Technique) -SW7421** | | | | | | |
| Lead | g/L | 2 | NA | NA | NA | NA |
| **Mercury in Liquid Waste - SW7470** | | | | | | |
| Mercury | .g/L | 0.2 | NA | NA | NA | NA |
| **Selenium (AA, Furnace Technique) - SW7740** | | | | | | |
| Selenium | .g/L | 5 | NA | NA | NA | NA |
| **Thallium - SW7841** | | | | | | |
| Thallium | .g/L | 50 | NA | NA | NA | NA |

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
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| Analyte | UNITS | Reporting Limit | WHGLRW015 N 7/10/00 | WHGLRW017 N 7/14/00 | WHGLRW017 FD 7/14/00 | WHGLTA011 N 7/13/00 |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds - SW8260B** | | | | | | |
| 1,1,1,2-Tetrachloroethane | g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| 1,1,1-Trichloroethane | g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | .g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,1,2-Trichloroethane | ·g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| 1,1-Dichloroethane | :g/L | 0.4 | 0 4 U | 0 4 U | 0.4 U | 0.4 U |
| 1,1-Dichloroethene | :g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,1-Dichloropropene | :g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,2,3-Trichlorobenzene | :g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2,3-Trichloropropane | :g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2,4-Trichlorobenzene | :g/L | 0.4 | 0 4 U | 0.4 U | 0.4 U | 0.4 U |
| 1,2,4-Trimethylbenzene | :g/L | 0 5 | 0 5 U | 0 5 R | 0.5 R | 0.5 U |
| 1,2-Dibromo-3-Chloropropane | :g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2-Dibromoethane (ethylene dibromide) | :g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2-Dichlorobenzene | :g/L | 0 3 | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| 1,2-Dichloroethane | :g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| 1,2-Dichloropropane | :g/L | 0 4 | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| 1,3,5-Trimethylbenzene (mesitylene) | ·g/L | 0.5 | 0 5 R | 0 5 U | 0.5 U | 0.5 U |
| 1,3-Dichlorobenzene | g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,3-Dichloropropane | ·g/L | 0.4 | 0 4 U | 0 4 U | 0.4 U | 0.4 U |
| 1,4-Dichlorobenzene | g/L | 0.3 | 0 3 U | 0.3 U | 0 3 U | 0 3 U |
| 1-Chlorohexane | g/L | 0 5 | 0 5 U | 0 5 R | 0 5 R | 0 5 U |
| 2,2-Dichloropropane | g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 2-Chlorotoluene | ·g/L | 0 4 | 0 4 U | 0.4 U | 0.4 U | 0 4 U |
| 4-Chlorotoluene | .g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| Benzene | ·g/L | 0 4 | 0.4 U | 0.4 U | 0 4 U | 0 4 U |
| Bromobenzene | ·g/L | 0 3 | 0 3 U | 0.3 U | 0.3 U | 0 3 U |
| Bromochloromethane | .g/L | 0 4 | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Bromodichloromethane | g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Bromoform | :g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| Bromomethane | :g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0.5 U |

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**Table B.1**
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| Analyte | Units | Reporting Limit | WHGLRW015 N 7/10/00 | WHGLRW017 N 7/14/00 | WHGLRW017 FD 7/14/00 | WHGLTA011 N 7/13/00 |
|---|---|---|---|---|---|---|
| Carbon tetrachloride | g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Chlorobenzene | ·g/L | 0 4 | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Chloroethane | ·g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| Chloroform | g/L | 0 3 | 0 3 U | 0.3 U | 0.3 U | 0 3 U |
| Chloromethane | .g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0 5 U |
| *cis* -1,2-Dichloroethene | .g/L | 0.5 | 10 | 0 5 U | 0.5 U | 0.5 U |
| *cis* -1,3-Dichloropropene | ·g/L | 0.5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Dibromochloromethane | g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| Dibromomethane | .g/L | 0.5 | 0.5 U | 0.5 U | 0 5 U | 0 5 U |
| Dichlorodifluoromethane | ·g/L | 0.5 | 0.5 U | 0.5 R | 0.5 R | 0.5 U |
| Ethylbenzene | g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Hexachlorobutadiene | :g/L | 0.5 | 0.5 R | 0 5 U | 0 5 U | 0 5 U |
| Isopropylbenzene (cumene) | :g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| *m* - & *p* -Xylene (sum of isomers) | .g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Methylene chloride | g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Naphthalene | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| *n* -Butylbenzene | g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| *n* -Propylbenzene | g/L | 0 4 | 0 4 U | 0 4 U | 0 4 U | 0.4 U |
| *o* -Xylene (1,2-dimethylbenzene) | g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| *p* -Cymene (*p* -isopropyltoluene) | .g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| *sec* -Butylbenzene | ·g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Styrene | ·g/L | 0 4 | 0 4 U | 0 4 U | 0.4 U | 0.4 U |
| *tert* -Butylbenzene | .g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0 5 U |
| Methyl tert-butyl ether | ·g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Tetrachloroethene (PCE) | g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| Toluene | .g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| *trans* -1,2-Dichloroethene | :g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| *trans* -1,3-Dichloropropene | g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Trichloroethene (TCE) | .g/L | 0 5 | 26 | 0 5 U | 0.5 U | 8 |
| Trichlorofluoromethane | :g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0.5 U |
| Vinyl acetate | :g/L | 2 | 2 U | 2 U | 2 U | 2 U |
| Vinyl chloride | ·g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |

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**Table B.1**
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| Analyte | UNITS | Reporting Limit | WHGLTA025 N 7/10/00 | WITCTA004 N 7/13/00 | WITCTA010 N 7/11/00 | WITCTA017 N 7/12/00 |
|---|---|---|---|---|---|---|
| **Trace Elements (Metals) by ICP - SW6010** | | | | | | |
| Aluminum | :g/L | 500 | NA | NA | NA | 500 UJ |
| Arsenic | :g/L | 50 | NA | NA | NA | 50 UJ |
| Barium | .g/L | 200 | NA | NA | NA | 74 7 F |
| Beryllium | g/L | 3 | NA | NA | NA | 3 UJ |
| Cadmium | .g/L | 5 | NA | NA | NA | 5 UJ |
| Calcium | ·g/L | 500 | NA | NA | NA | 122000 |
| Cobalt | g/L | 10 | NA | NA | NA | 10 U |
| Copper | g/L | 100 | NA | NA | NA | 100 U |
| Iron | .g/L | 70 | NA | NA | NA | 39 F |
| Magneseum | g/L | 500 | NA | NA | NA | 14600 |
| Manganese | ·g/L | 20 | NA | NA | NA | 20 U |
| Moylbdenum | ·g/L | 10 | NA | NA | NA | 2.3 F |
| Nickel | g/L | 20 | NA | NA | NA | 20 UJ |
| Potassium | g/L | 5000 | NA | NA | NA | 5060 |
| Silver | ·g/L | 5 | NA | NA | NA | 5 U |
| Sodium | :g/L | 1000 | NA | NA | NA | 35200 |
| Vanadium | :g/L | 10 | NA | NA | NA | 10 U |
| Zinc | :g/L | 100 | NA | NA | NA | 100 U |
| **Antimony (AA, Furnace Technique) - SW7041** | | | | | | |
| Antimony | ·g/L | 10 | NA | NA | NA | 10 U |
| **Chromium (AA, Furnace Technique) - SW7191** | | | | | | |
| Chromium (total) | :g/L | 5 | NA | NA | NA | 5 U |
| **Lead (AA, Furnace Technique) -SW7421** | | | | | | |
| Lead | :g/L | 2 | NA | NA | NA | 2 U |
| **Mercury in Liquid Waste - SW7470** | | | | | | |
| Mercury | :g/L | 0.2 | NA | NA | NA | 0 2 U |
| **Selenium (AA, Furnace Technique) - SW7740** | | | | | | |
| Selenium | ·g/L | 5 | NA | NA | NA | 5 UJ |
| **Thallium - SW7841** | | | | | | |
| Thallium | .g/L | 50 | NA | NA | NA | 50 UJ |

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | WHGLTA025 N 7/10/00 | WITCTA004 N 7/13/00 | WITCTA010 N 7/11/00 | WITCTA017 N 7/12/00 |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds - SW8260B** | | | | | | |
| 1,1,1,2-Tetrachloroethane | ·g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,1,1-Trichloroethane | :g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0 5 U |
| 1,1,2,2-Tetrachloroethane | .g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,1,2-Trichloroethane | g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,1-Dichloroethane | g/L | 0 4 | 0.4 U | 0 4 U | 0.4 U | 0.4 U |
| 1,1-Dichloroethene | :g/L | 0 5 | 0.5 U | 1 J | 0.5 R | 0 5 U |
| 1,1-Dichloropropene | g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0 5 U |
| 1,2,3-Trichlorobenzene | .g/L | 0 5 | 0 5 U | 0 5 U | 0 5 R | 0.5 U |
| 1,2,3-Trichloropropane | :g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,2,4-Trichlorobenzene | :g/L | 0.4 | 0 4 U | 0 4 U | 0 4 R | 0.4 U |
| 1,2,4-Trimethylbenzene | ·g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| 1,2-Dibromo-3-Chloropropane | :g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,2-Dibromoethane (ethylene dibromide) | ·g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |
| 1,2-Dichlorobenzene | .g/L | 0 3 | 0.3 U | 0 3 U | 0.3 U | 0 3 U |
| 1,2-Dichloroethane | ·g/L | 0.5 | 0 5 U | 0 5 U | 0 5 U | 0 5 U |
| 1,2-Dichloropropane | .g/L | 0 4 | 0 4 U | 0 4 U | 0.4 U | 0.4 U |
| 1,3,5-Trimethylbenzene (mesitylene) | :g/L | 0.5 | 0 5 R | 0 5 U | 0.5 U | 0 5 U |
| 1,3-Dichlorobenzene | g/L | 0 5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| 1,3-Dichloropropane | .g/L | 0 4 | 0 4 U | 0 4 U | 0.4 U | 0.4 U |
| 1,4-Dichlorobenzene | :g/L | 0.3 | 0.3 U | 0 3 U | 0 3 U | 0 3 U |
| 1-Chlorohexane | ·g/L | 0.5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| 2,2-Dichloropropane | .g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| 2-Chlorotoluene | .g/L | 0 4 | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| 4-Chlorotoluene | g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| Benzene | g/L | 0 4 | 0 4 U | 0 4 U | 0 4 U | 0.4 U |
| Bromobenzene | :g/L | 0.3 | 0 3 U | 0 3 U | 0.3 U | 0.3 U |
| Bromochloromethane | g/L | 0 4 | 0.4 U | 0 4 U | 0 4 U | 0 4 U |
| Bromodichloromethane | ·g/L | 0.5 | 0 5 U | 0.5 U | 0.5 U | 0.5 U |
| Bromoform | :g/L | 0 5 | 0 5 U | 0 5 U | 0 5 U | 0.5 U |
| Bromomethane | ·g/L | 0.5 | 0.5 U | 0 5 U | 0.5 U | 0.5 U |

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | WHGLTA025 N 7/10/00 | WITCTA004 N 7/13/00 | WITCTA010 N 7/11/00 | WITCTA017 N 7/12/00 |
|---|---|---|---|---|---|---|
| Carbon tetrachloride | ·g/L | 0.5 | 0.5 U | 0.5 U | 0 5 U | 0.5 U |
| Chlorobenzene | g/L | 0.4 | 0.4 U | 0 4 U | 0.4 U | 0 4 U |
| Chloroethane | .g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Chloroform | ·g/L | 0.3 | 0.3 U | 0 3 U | 0.3 U | 0.3 U |
| Chloromethane | :g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| *cis*-1,2-Dichloroethene | g/L | 0 5 | 2 | 19 | 1 | 0 5 U |
| *cis*-1,3-Dichloropropene | g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| Dibromochloromethane | g/L | 0 5 | 0 5 U | 0.5 U | 0.5 U | 0 5 U |
| Dibromomethane | ·g/L | 0.5 | 0.5 U | 0 5 U | 0 5 U | 0.5 U |
| Dichlorodifluoromethane | g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0 5 U |
| Ethylbenzene | g/L | 0 5 | 0.5 U | 0 5 U | 0 5 U | 0 5 U |
| Hexachlorobutadiene | g/L | 0 5 | 0 5 R | 0 5 U | 0.5 R | 0 5 U |
| Isopropylbenzene (cumene) | ·g/L | 0 5 | 0.5 U | 0 5 U | 0.6 | 0 5 U |
| *m*- & *p*-Xylene (sum of isomers) | .g/L | 0.5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Methylene chloride | g/L | 0.5 | 0.5 U | 0 5 R | 0.5 U | 0.5 U |
| Naphthalene | ·g/L | 0 5 | 0.5 U | 0.5 U | 0.5 R | 0.5 U |
| *n*-Butylbenzene | g/L | 0.5 | 0 5 U | 0.5 U | 0 5 U | 0.5 U |
| *n*-Propylbenzene | .g/L | 0 4 | 0.4 U | 0.4 U | 0 4 U | 0.4 U |
| *o*-Xylene (1,2-dimethylbenzene) | :g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| *p*-Cymene (*p*-isopropyltoluene) | :g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0.5 U |
| *sec*-Butylbenzene | :g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0 5 U |
| Styrene | :g/L | 0.4 | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| *tert*-Butylbenzene | .g/L | 0 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Methyl tert-butyl ether | g/L | 0 5 | 0.5 U | 0.5 U | 0 5 U | 0 5 U |
| Tetrachloroethene (PCE) | ·g/L | 0 5 | 0 5 U | 0 6 | 0 5 U | 0.5 U |
| Toluene | g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| *trans*-1,2-Dichloroethene | .g/L | 0.5 | 0 5 U | 0 8 J | 0 6 | 0 5 U |
| *trans*-1,3-Dichloropropene | ·g/L | 0.5 | 0 5 U | 0.5 U | 0 5 U | 0 5 U |
| Trichloroethene (TCE) | g/L | 0 5 | 7 | 180 * | 0.5 U | 0.5 U |
| Trichlorofluoromethane | .g/L | 0 5 | 0 5 U | 0 5 U | 0.5 U | 0.5 U |
| Vinyl acetate | ·g/L | 2 | 2 U | 2 U | 2 U | 2 U |
| Vinyl chloride | g/L | 0 5 | 0.5 U | 0 5 U | 2 | 0.5 U |

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**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | WITCTA024 N 7/12/00 | WJETA535 N 7/11/00 |
|---|---|---|---|---|
| **Trace Elements (Metals) by ICP - SW6010** | | | | |
| Aluminum | :g/L | 500 | NA | 500 UJ |
| Arsenic | ·g/L | 50 | NA | 50 UJ |
| Barium | ·g/L | 200 | NA | 129 F |
| Beryllium | .g/L | 3 | NA | 3 UJ |
| Cadmium | :g/L | 5 | NA | 5 UJ |
| Calcium | ·g/L | 500 | NA | 155000 |
| Cobalt | .g/L | 10 | NA | 10 U |
| Copper | ·g/L | 100 | NA | 100 U |
| Iron | :g/L | 70 | NA | 70 U |
| Magneseum | ·g/L | 500 | NA | 6930 |
| Manganese | .g/L | 20 | NA | 20 U |
| Moylbdenum | g/L | 10 | NA | 10 U |
| Nickel | :g/L | 20 | NA | 20 UJ |
| Potassium | ·g/L | 5000 | NA | 593 F |
| Silver | g/L | 5 | NA | 5 U |
| Sodium | g/L | 1000 | NA | 23300 |
| Vanadium | .g/L | 10 | NA | 10 U |
| Zinc | ·g/L | 100 | NA | 100 U |
| **Antimony (AA, Furnace Technique) - SW7041** | | | | |
| Antimony | g/L | 10 | NA | 10 UJ |
| **Chromium (AA, Furnace Technique) - SW7191** | | | | |
| Chromium (total) | g/L | 5 | NA | 5 UJ |
| **Lead (AA, Furnace Technique) -SW7421** | | | | |
| Lead | :g/L | 2 | NA | 2 UJ |
| **Mercury in Liquid Waste - SW7470** | | | | |
| Mercury | g/L | 0 2 | NA | 0 51 |
| **Selenium (AA, Furnace Technique) - SW7740** | | | | |
| Selenium | ·g/L | 5 | NA | 5 U |
| **Thallium - SW7841** | | | | |
| Thallium | :g/L | 50 | NA | 50 UJ |

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**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | WITCTA024 7/12/00 | WJETA535 7/13/00 |
|---|---|---|---|---|
| **Volatile Organic Compounds - SW8260B** | | | | |
| 1,1,1,2-Tetrachloroethane | :g/L | 0.5 | 0.5 U | 0 5 U |
| 1,1,1-Trichloroethane | :g/L | 0 5 | 0 5 U | 0 5 U |
| 1,1,2,2-Tetrachloroethane | g/L | 0 5 | 0 5 U | 0 5 U |
| 1,1,2-Trichloroethane | ·g/L | 0 5 | 0.5 U | 0.5 U |
| 1,1-Dichloroethane | g/L | 0.4 | 0 4 U | 0.4 U |
| 1,1-Dichloroethene | :g/L | 0.5 | 0.5 U | 0.5 U |
| 1,1-Dichloropropene | :g/L | 0 5 | 0.5 U | 0 5 U |
| 1,2,3-Trichlorobenzene | .g/L | 0.5 | 0.5 U | 0.5 U |
| 1,2,3-Trichloropropane | :g/L | 0 5 | 0 5 U | 0 5 U |
| 1,2,4-Trichlorobenzene | ·g/L | 0.4 | 0 4 U | 0.4 U |
| 1,2,4-Trimethylbenzene | g/L | 0 5 | 0.5 U | 0 5 U |
| 1,2-Dibromo-3-Chloropropane | g/L | 0 5 | 0 5 U | 0 5 U |
| 1,2-Dibromoethane (ethylene dibromide) | ·g/L | 0.5 | 0.5 U | 0.5 U |
| 1,2-Dichlorobenzene | :g/L | 0.3 | 0.3 U | 0.3 U |
| 1,2-Dichloroethane | ·g/L | 0 5 | 0.5 U | 0.5 U |
| 1,2-Dichloropropane | :g/L | 0 4 | 0.4 U | 0 4 U |
| 1,3,5-Trimethylbenzene (mesitylene) | ·g/L | 0 5 | 0 5 U | 0.5 R |
| 1,3-Dichlorobenzene | ·g/L | 0 5 | 0 5 U | 0.5 U |
| 1,3-Dichloropropane | :g/L | 0 4 | 0 4 U | 0.4 U |
| 1,4-Dichlorobenzene | .g/L | 0.3 | 0 3 U | 0.3 U |
| 1-Chlorohexane | ·g/L | 0.5 | 0 5 U | 0 5 U |
| 2,2-Dichloropropane | :g/L | 0.5 | 0 5 U | 0 5 U |
| 2-Chlorotoluene | :g/L | 0 4 | 0.4 U | 0 4 U |
| 4-Chlorotoluene | g/L | 0 5 | 0.5 U | 0.5 U |
| Benzene | .g/L | 0.4 | 0 4 U | 0 4 U |
| Bromobenzene | ·g/L | 0 3 | 0.3 U | 0 3 U |
| Bromochloromethane | :g/L | 0.4 | 0 4 U | 0.4 U |
| Bromodichloromethane | :g/L | 0.5 | 0 5 U | 0.5 U |
| Bromoform | :g/L | 0.5 | 0.5 U | 0.5 U |
| Bromomethane | g/L | 0 5 | 0.5 U | 0.5 U |

**Table B.1**
**TCE Plume Monitoring Well Laboratory Results**
**July 2000**
**NAS Fort Worth JRB**

| Analyte | UNITS | Reporting Limit | WITCTA024 GW 7/12/00 | WJETA535 GW 7/11/00 |
|---|---|---|---|---|
| Carbon tetrachloride | :g/L | 0.5 | 0.5 U | 0.5 U |
| Chlorobenzene | .g/L | 0 4 | 0 4 U | 0.4 U |
| Chloroethane | ·g/L | 0 5 | 0 5 U | 0 5 U |
| Chloroform | .g/L | 0.3 | 0.3 U | 0.3 U |
| Chloromethane | :g/L | 0.5 | 0.5 U | 0.5 U |
| *cis* -1,2-Dichloroethene | ·g/L | 0 5 | 0 5 U | 0 5 U |
| *cis* -1,3-Dichloropropene | g/L | 0 5 | 0.5 U | 0 5 U |
| Dibromochloromethane | ·g/L | 0 5 | 0 5 U | 0.5 U |
| Dibromomethane | :g/L | 0 5 | 0 5 U | 0.5 U |
| Dichlorodifluoromethane | ·g/L | 0 5 | 0 5 U | 0.5 U |
| Ethylbenzene | g/L | 0.5 | 0.5 U | 0 5 U |
| Hexachlorobutadiene | :g/L | 0.5 | 0.5 U | 0.5 U |
| Isopropylbenzene (cumene) | :g/L | 0 5 | 0 5 U | 0.5 U |
| *m* - & *p* -Xylene (sum of isomers) | g/L | 0 5 | 0 5 U | 0.5 U |
| Methylene chloride | ·g/L | 0 5 | 0 5 U | 0.5 U |
| Naphthalene | :g/L | 0 5 | 0 5 U | 0 5 U |
| *n* -Butylbenzene | :g/L | 0 5 | 0.5 U | 0 5 U |
| *n* -Propylbenzene | :g/L | 0.4 | 0.4 U | 0.4 U |
| *o* -Xylene (1,2-dimethylbenzene) | g/L | 0 5 | 0 5 U | 0 5 U |
| *p* -Cymene (*p* -isopropyltoluene) | :g/L | 0 5 | 0.5 U | 0.5 U |
| *sec* -Butylbenzene | .g/L | 0.5 | 0.5 U | 0.5 U |
| Styrene | :g/L | 0 4 | 0 4 U | 0 4 U |
| *tert* -Butylbenzene | ·g/L | 0 5 | 2 | 0 5 U |
| Methyl tert-butyl ether | ·g/L | 0 5 | 0 5 U | 0.5 U |
| Tetrachloroethene (PCE) | ·g/L | 0 5 | 0 5 U | 0.5 U |
| Toluene | :g/L | 0.5 | 0.5 U | 0 5 U |
| *trans* -1,2-Dichloroethene | :g/L | 0.5 | 0 5 U | 0.5 U |
| *trans* -1,3-Dichloropropene | ·g/L | 0 5 | 0 5 U | 0 5 U |
| Trichloroethene (TCE) | .g/L | 0.5 | 0 5 U | 0.5 U |
| Trichlorofluoromethane | ·g/L | 0.5 | 0.5 U | 0 5 U |
| Vinyl acetate | :g/L | 2 | 2 U | 2 U |
| Vinyl chloride | g/L | 0 5 | 3 | 0.5 U |

# TABLE B.2

## DETECTED VOLATILE ORGANIC COMPOUND RESULTS FROM LANDFILL 7 GROUNDWATER INVESTIGATION

**Table B.2**
**Detected Volatile Organic Compound Results From**
**Landfill 7 Groundwater Investigation**
**July 2000**

| Well | Analyte | Result (µg/L) |
|---|---|---|
| WHGLTA704 | Benzene | 25 |
| | *cis*-1,2-Dichloroethene | 0.7 |
| | Vinyl Chloride | 0.9 |
| WHGLTA705 | *cis*-1,2-Dichloroethene | 12 |
| | *trans*-1,2-Dichloroethene | 3 |
| | Vinyl Chloride | 2 |
| WHGLTA706 | *cis*-1,2-Dichloroethene | 20 |
| | *trans*-1,2-Dichloroethene | 1 |
| | Trichloroethene (TCE) | 5 |
| | Vinyl Chloride | 2 |

Notes:
Underlined results represent values that are greater than or equal to RRS 2 levels.

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# FINAL PAGE

## ADMINISTRATIVE RECORD

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